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The effects of strategy instruction on the vocabulary acquisition and reading comprehension of grade five students

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**THE EFFECTS OF STRATEGY INSTRUCTION ON THE VOCABULARY ACQUISITION
AND READING COMPREHENSION OF GRADE FIVE STUDENTS**

By

Michelle Gurry B. A.

A Thesis Submitted in Partial Fulfilment of the
Requirements for the Award of

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USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.

Abstract

Two studies were conducted to examine the effects of specified teaching strategies on vocabulary acquisition and reading comprehension. Two methods were used to teach Grade 5 students to infer word meanings from context. The first was based on regular methods that occur within primary classrooms. The second involved a detailed strategy that gave students a step-by-step guide to deriving word meanings from context. Both groups were pretested and posttested with a developed vocabulary acquisition test and the Progressive Achievement Test of reading comprehension. A four-factor ANOVA with repeated measures was used to test the hypotheses.

The first study showed no significant interaction, but indicated significant main effects for ability and time on the vocabulary measure. The study was then replicated with a more controlled treatment mode and experimental design. The second study showed a significant interaction for the Groups x Time interaction. Examination of this result revealed that the strategy method was significantly better than the regular method in improving reading comprehension over the period of the treatment. Reading comprehension scores significantly improved, despite the fact that the vocabulary acquisition scores did not significantly change over the same period. These results indicate that strategy instruction may be a viable technique for improving students' reading comprehension. However, further research is required

to investigate the nature of the link that exists between reading comprehension and vocabulary acquisition.

Declaration

I certify that this thesis does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any institution of higher education. Further, to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

Signature

Date 20th - 8 - 95

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CHAPTER ONE

Introduction

Recent developments in research into reading have highlighted the importance of reading proficiency for personal development and competency in a wide range of subject domains (Pinnell, Lyons, DeFord, Bryk & Seltzer, 1994; Holdaway, 1982). The primary school has been identified as the foundation for reading development because the early years of education set the pattern for later learning. Without the ability to read, academic achievement in high school and beyond can be severely restricted. There is, however, another reason for raising literacy levels apart from the obvious benefits to the individual. The economic future of our country depends largely upon the skill levels of our population and their capacity to compete productively within the world economy. Competitive strength depends, in large part, upon competence in basic literacy (Anderson, Hiebert, Scott, & Wilkinson, 1985).

As literacy is crucial to both individual competence and economic productivity, researchers have attempted to identify the most effective methods of reading instruction. Reading depends on a sophisticated system of skills, understandings and attitudes. Most authorities recognise two phases in the reading process. The individual is required at one level to recognise and decode the printed pattern. However, this is not an end in itself. The overall purpose of reading is to identify the meaning of text by comprehending what is decoded (Adams, 1990).

Vocabulary knowledge has been identified as an important factor in the comprehension of print. Ongoing research is needed to clarify the role vocabulary plays and to identify the most effective methods for promoting vocabulary acquisition.

Research into vocabulary instruction is significant for a number of reasons. First, vocabulary knowledge is "highly predictive if not determinative of one's level of reading comprehension" (Sternberg, 1987, p. 130). It seems likely that methods of instruction that increase the acquisition of vocabulary are also likely to increase levels of reading comprehension. Secondly, vocabulary knowledge is strongly related to school success because instruction is composed of descriptions, explanations, demonstrations and definitions that assume an increasingly sophisticated receptive vocabulary (Jenkins, Matlock & Slocum, 1989). It has been argued, therefore, that effective vocabulary instruction will result in a likely increase in an individual's level of reading comprehension and success in other subject domains. The aim of the present study is to test the validity of these arguments.

Statement of the Problem

The current study focused upon comparing two methods of vocabulary instruction. Correlations between gender, reading ability, vocabulary acquisition and reading comprehension were also explored. These variables are represented within the conceptual framework (Figure 1.1). The framework provides a simplified context for the acquisition of vocabulary. It does not involve all the factors that are predictors or causal factors influencing vocabulary acquisition and reading

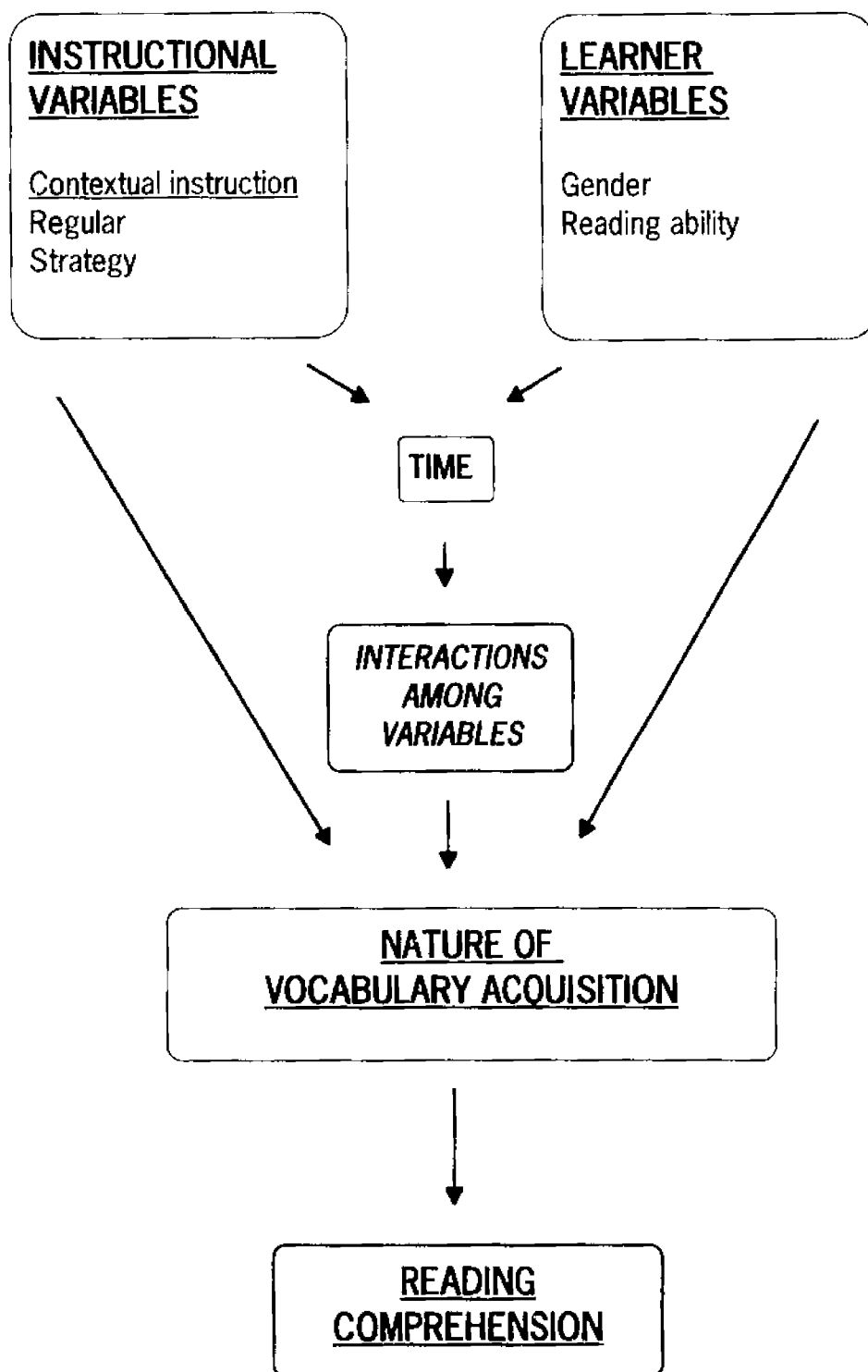
comprehension. The model includes only the independent and dependent variables relevant to the present study. Other variables may affect vocabulary acquisition and reading comprehension, however, these are not a concern in the present study.

The first factor in the framework is the instructional variables. Vocabulary instruction can first be grouped into two major categories: specific instruction and generative instruction. *Specific vocabulary instruction* or learning words in isolation from written context involves the teaching of word meanings one at a time. That is, each word meaning is learned separately and it is presumed that the knowledge of one meaning does not assist in learning other word meanings. *Generative vocabulary instruction* involves the teaching of word parts, rules or strategies to access a large corpus of word meanings. The learner is provided with a skill that can be applied to many word meanings. Although specific instruction has been shown to be very effective (e.g., Levin, Pressley, McCormick, Miller & Shriberg, 1979), generative approaches are more convenient to the learner, can be used automatically and do not require prior knowledge of word meanings (Sternberg, 1987).

Generative vocabulary instruction was utilised within the present study. The method employed is referred to as contextual instruction. *Contextual instruction* involves teaching students to derive the meanings of words embedded in text by using the clues in the text as a guide. The contextual method is the most widely researched form of generative vocabulary instruction. It is assumed, by default, to

FIGURE 1.

Vocabulary Acquisition Conceptual Framework



be the explanation for the rapid growth in a child's vocabulary throughout primary schooling (Nagy & Herman, 1985). That is, researchers assume that *incidental vocabulary acquisition*, vocabulary acquired in the absence of intent to learn or instruction to that effect (Reber, 1985), will most likely result in vocabulary growth because nobody can ascertain an alternative way that students could learn such a large number of words. Therefore, learning vocabulary from context is the most plausible explanation for the doubling in a student's vocabulary between Grades 3 and 7 (Jenkins & Dixon, 1983; Nagy & Herman, 1985).

Contextual strategies are typically acquired through exposure to literature. Students develop strategies which allow them to derive word meanings, or comprehend text without the knowledge of individual words. Poor readers and comprehenders usually fail to acquire these strategies through exposure to literature and consequently require explicit instruction for their development (Carnine, Kameenui & Coyle, 1984). That is, they need to be taught strategies to become skilled at deriving word meanings from context.

Within the current study two contextual vocabulary methods were compared. These vocabulary methods, regular and strategy instruction, formed the central independent variable of the study. *Strategy instruction (SI)* utilised the SCANR strategy to teach vocabulary acquisition from context. A *strategy* was defined as "an established or systematic order for performing or conducting an operation" (Good, 1973, p. 363). The *SCANR strategy* consisted of a series of steps to derive the meaning of an unknown word within a passage. It involved the substitution of a word

or expression for an unknown word, a check on the context for clues that supported the idea, a request to check that a substitution fitted all context clues, establishment of whether a new idea was needed and revision of the new idea to fit the context (Jenkins, Matlock & Slocum, 1989). The strategy instruction was aimed at those students unable to devise the appropriate strategies to derive word meanings from context.

Regular instruction (RI) informed the students of their task without providing them with a detailed procedure/strategy to derive word meanings from context. The regular group students were required to find the meanings of the nonsense words by deciding which one made sense within the passage. This type of instruction was assumed to cater only for those students able to create their own strategies to derive word meanings from context because a step-by-step procedure was not presented.

The second factor in the conceptual model is the learner variables. The learner variables, also independent variables, relevant to this study are the gender of the students and their reading ability. Gender differences between students were compared to ascertain whether one gender was more able at reading comprehension and vocabulary tasks than the other. Differences found in previous research have been accounted for by social factors, differences in the teaching style delivered to boys and girls, different expectations for boys and girls in reading achievement or gender biases within the reading instruction literature (Drane, Halpin,

Halpin, vonEschenbach & Worden, 1989). Reading ability within the study was assessed by a reading comprehension test and a vocabulary acquisition test.

Above average readers were defined as those students whose pretest scores were greater than the median score for their instructional group. *Below average readers* were defined as individuals with test scores lower score than the median score for their instructional group. Ability differences were examined to see whether students with different levels of reading skill benefited from regular and strategy vocabulary instruction to the same extent.

The final independent variable within the conceptual framework was time. *Time* was defined as the two testing periods during the study: the pretest and posttest situation. This variable allowed for comparisons to be made as to the effectiveness of the regular and strategy instruction.

The instructional variables and learner variables both influence the acquisition of vocabulary independently of one another, or interact over time to influence the nature of the vocabulary acquisition that takes place. For the purpose of this study *vocabulary acquisition* was defined as the number of synthetic (nonsense) word meanings correctly identified within the Vocabulary Acquisition (VOCAC) Test. Vocabulary acquisition was the primary dependent variable within the investigation.

The final component of the framework, and the secondary dependent variable within the study, is reading comprehension. The instructional variables and the learner variables affect vocabulary acquisition over time. Reading comprehension is affected by increases in vocabulary acquisition. That is,

improvements in vocabulary acquisition should result in improvements in reading comprehension. Previous research has revealed a high correlation between vocabulary acquisition and reading comprehension (Graves, 1986; Sternberg, 1987). Since vocabulary knowledge is a prerequisite skill for reading comprehension, it was assumed that vocabulary acquisition affects reading comprehension, rather than the reverse. However, the current study does not preclude the possibility that reverse effects may occur. That is, reading comprehension may affect vocabulary acquisition. Within this study *reading comprehension* was defined as the scores as measured by the PAT Reading Comprehension Test.

The link between vocabulary acquisition and reading comprehension was investigated with respect to Grade 5 students. This grade level was chosen for two reasons. First, in order to comprehend text students must be able to decode text. Reading theorists postulate that students from Grade 4 change their emphasis from decoding text to comprehending text. If this is the case, Grade 5 students should be at an adequate level of decoding to attend to comprehending text. Secondly, according to the literature rapid vocabulary growth occurs between Grades 3 and 7 (Graves, 1986). The teaching of a strategy to Grade 5 students was intended to maximise this process.

The present study differs from those previously undertaken as these particular independent variables have not previously been investigated together. Several studies have investigated the effects of instruction upon learning vocabulary

from context (Carnine, Kameenui & Coyle, 1984; Jenkins, Matlock & Slocum, 1989), the effects of strategy instruction upon good and poor readers (Hansen & Pearson, 1983; Short & Ryan; 1984) and the differences between boys and girls in reading achievement (Asher & Markell, 1974; Rivera, 1983). However, no single study has researched these variables together. Therefore, the present study is important because it is likely to identify interactions between the variables that have not been identified in previous vocabulary or reading comprehension research.

Overall, the main purpose of this study was to identify how each type of vocabulary instruction affects vocabulary acquisition from context and reading comprehension. Comparisons were made between the two instructional groups, students with disparate levels of reading skill and the reading achievement of boys and girls. In particular, a treatment interaction for instructional group x time was focussed upon as evidence to support the conceptual model. Beyond this, the study attempted to ascertain whether interactions exist between any or all of the variables in an attempt to produce more effective vocabulary instruction and, therefore, increase the reading comprehension achievement of students within and beyond primary school.

CHAPTER TWO

Review of Literature

Previous research findings have identified vocabulary knowledge as a significant correlate of reading comprehension ability. Further, a wide array of experimental studies have demonstrated that subjects taught vocabulary tend to do somewhat better than control subjects on reading comprehension measures. Both of these sets of research findings suggest that vocabulary knowledge may be a critical precursor of competence in reading comprehension.

The current study investigated the usefulness of a particular strategy for teaching vocabulary, and its effects upon reading comprehension and vocabulary acquisition. Below average and above average readers of both genders were compared within the context of experimental and control conditions. The literature relevant to this study includes investigations about good and poor readers, the acquisition of vocabulary from context and the differences that exist between boys and girls with regard to reading achievement.

Good and Poor Readers and Strategy Instruction

Good readers typically employ strategies such as predicting, self-questioning, rephrasing and clarifying information, seeking relationships among ideas, deriving unfamiliar word meanings from context and summarising in their search to construct meaning and make sense of written text (Palinscar & Brown, 1988). Poor readers, on the other hand, typically lack knowledge about the

purposes of reading, fail to assess the suitability of chosen strategies, do not apply strategies instinctively and are inflexible in applying chosen strategies (Bransford, Shelton, Stein & Owings, 1980; Brown & Smiley, 1978; Canney & Winograd, 1980; Markman, 1979; Paris & Myers, 1981; Pearson, Hansen & Gordon, 1979; Ryan, 1981; Smiley, Oakley, Worthen, Campione & Brown, 1977). These findings suggest that poor readers probably require explicit instruction and practice in utilising reading comprehension strategies.

Research related to good and poor readers has often involved some forms of strategy instruction (e.g., Cohen, 1983; Hansen & Pearson, 1983; Short & Ryan, 1984). Interventions have concentrated upon teaching those strategies utilised by good readers, and examined the effect of this focused teaching upon good and poor readers' comprehension. The following review summarises nine such studies that encompass four different approaches to reading strategy instruction.

Investigations utilising question-generation strategies are discussed first, followed by studies that employed inference, story mapping and reciprocal teaching strategies.

Cohen (1983) investigated the effects of teaching a question-generation strategy upon the reading comprehension of Grade 3 students. Forty-eight students were selected, all scoring less than 85% on a question-generation test, and these students were randomly assigned to the experimental or control conditions.

Experimental group students received 10 sessions of instruction, each of 15 to 20 minutes in duration. Teacher modelling of the strategy and student practice occurred during the first six sessions, while the last four sessions involved

independent use of the strategy by the students. Sessions took place in small groups at the back of the classroom, while control group students continued with their regular language instruction. All students completed a question-generation test and the Developmental Reading Test as a posttest. Results showed that the experimental group performed significantly better on the question-generation and reading comprehension measures than the control group. The experimental group also improved significantly from the pretest to the posttest on both measures. These results suggest that question-generation instruction can increase poor readers' ability to generate questions whilst reading. At the same time, the strategy not only improved question-generation, but also the students' abilities to analyse and retrieve important information from text.

Similar findings were reported when Short and Ryan (1984) investigated the effects of teaching a question-generation strategy. Fifty-six Grade 4 boys were selected to participate in the study, and the sample included 14 skilled and 42 less skilled readers. Seven sessions were scheduled, with skilled readers participating in the pretest and posttest sessions only. Less skilled readers received one of three types of training-strategy, attribution or both, while the skilled readers served as the control group. Strategy group students generated *who*, *what*, *where*, and *when* questions about the passages read, and then underlined the appropriate passage information to answer these questions. In the attribution condition the teacher encouraged the students to enjoy the activities and to try their best. The teacher also praised the students when they made appropriate progress. Students were

posttested using the Stanford Diagnostic Reading Test. Results indicated that strategy training was superior in its effects when compared with attribution training, and that both treatments together did not differentially enhance performance. Lastly, less skilled readers who received the strategy training were, by the end of the study, performing at a level equal to that of the skilled readers. Poor readers improved their reading comprehension skills through the strategy training, a finding supported by Cohen (1983). It appeared to provide them with an organisational framework within which to encode, integrate and structure the story information (Stein & Glenn, 1979).

Inference training delivered to good and poor readers has produced positive results for poor readers (Hansen & Pearson, 1983). Forty Grade 4 students were selected to participate in this study, and then randomly assigned to the experimental or control groups. Both groups followed a basal reading programme for 10 weeks, but the experimental group also received instruction in drawing inferences from text. Students read two basal reading passages and answered literal and inferential questions in the posttest. Although no significant differences were found between the treatments, poor readers improved their level of reading comprehension and their ability to draw inferences from text. Good readers did not improve on either measure. These findings support the argument that reading strategies may be acquired independently by good readers. Poor readers, however, may be unable to discover the strategies without assistance and, therefore, require explicit instruction to learn such detailed strategies.

In contrast, Dewitz, Carr and Patberg (1987) found that inference training did not produce disparate levels of competence in different ability groups. The study included 101 Grade 5 students. They were randomly assigned to one of four treatments, receiving training for eight weeks. The treatments were labelled cloze, structured overview, cloze/structured overview and control. The experimenter in the cloze treatment condition taught students to integrate background knowledge and text information in order to generate inferences from text. Students were also taught to self-monitor their answers. Within the structured overview treatment students were taught to hierarchically organise passages of text. In this treatment inferential questions were included, but not emphasised. Control group students read and discussed the same passages as the other students. Results indicated that treatments which included the cloze procedure were significantly more effective than the other treatments. All ability groups benefited equally from the cloze treatment, with low ability readers in that treatment exceeding the scores of the low ability students in the control treatment. These findings indicate that low and high ability readers in this context benefited equally from strategy instruction. Unlike the Hansen et al (1983) study, inference training proved to be highly effective in improving the literal and inferential comprehension of students. This study also reveals that comprehension skills can be taught and transferred to unfamiliar text.

Idol (1985) investigated the effects of teaching a story mapping strategy upon Grade 3 and 4 students' reading comprehension. Twenty-seven students participated in the study, with 11 students included in each of the strategy groups.

Five students with learning disabilities and low reading achievement were within the strategy group, while the remaining five students served as a control group. A multiple baseline design was implemented across the two groups, extending the baseline for the second group. The five phases included in the intervention were baseline, intervention/model, intervention/lead, intervention/test and maintenance periods. In the baseline and maintenance phases the teacher gave a general explanation of the ten questions to be answered from each story. The students then read each story silently and answered the related comprehension questions. In the intervention/model phase the baseline conditions continued, except that students completed a story map with teacher assistance. The intervention/lead phase required that the students complete the story map independently and report their answers to the group. In the intervention/test phase the students were no longer required to report and discuss their answers. The measures used within the study were the percentage of correct answers on each story question set, a curriculum-based measurement, the Nelson Reading Skills Test and a series of listening comprehension tests.

Results from the study indicated that the experimental group significantly improved on all measures, with the scores of the learning disabled and low achieving students improving significantly more than the scores of the other strategy students. Additionally, the progress of the normally achieving students was not impeded by the inclusion of the lower achieving students within the sessions. Again, these results suggest that poor readers can be taught to improve their

reading comprehension through strategy instruction. A countervailing notion that other students within the class are disadvantaged when low achieving students are given such instruction was not supported.

The thrust of these outcomes was subsequently supported by the findings of Idol and Croll (1985), who investigated the effects of story mapping procedures upon the reading comprehension of poor readers. A multiple baseline design was used upon five intermediate primary students with mild learning handicaps and poor comprehension. During the baseline condition students read a story segment orally for 20 minutes. They were then tape-recorded while retelling the story from memory and asked comprehension questions related to the story. The intervention condition involved teaching students about story maps, and when reading, stopping the students where information pertained to the story map components. The teacher then modelled how to find each component, either literal or inferential. After completing the story map the students retold the story and were asked the comprehension questions, as during the baseline phase. The dependent measures were the percentage of correct responses to the ten comprehension questions, the length of story retell, quality of retell, performance on the Stanford Diagnostic Reading Test and Nelson Reading Test, and a score on a listening comprehension measure. Results indicated that on most measures all five students improved. Four of the students increased in reading comprehension and in tendency to look for story map components when reading. The implications of this work and that of Idol (1985) are that poor comprehenders may need very precise and direct

comprehension instruction in order to improve their levels of reading comprehension.

Reciprocal teaching has been evaluated with respect to good and poor readers' comprehension (Gilroy & Moore, 1988). Twenty-eight girls, aged 9 to 13 were selected for the study as a result of their scores on the Progressive Achievement Test and the Burt Word Reading Test. Ten students were placed in the experimental group due to a deficit in their reading comprehension skills. Nine students whose scores were between the 45th and 65th percentile were placed in the average comparison group. The remaining nine students, whose scores were above the 85th percentile on the reading comprehension test, were placed in the above average comparison group. A multiple baseline design was used across the groups with all students in the experimental group exposed to baseline, intervention, maintenance and follow-up conditions. During the baseline sessions the students read an assessment text silently and then completed a ten-question comprehension test from memory. Sessions were 45 to 50 minutes in duration and the number of baseline days ranged from four to six. In the intervention, students were taught to summarise, question, clarify and predict information from text. These 21 sessions were 20 to 25 minutes in length. The maintenance and follow-up phases were identical to the baseline phase and occurred three and eight weeks after the completion of the study. Comparison group students were required to read the assessment texts and answer the related questions as a homework exercise. Results indicated that the experimental group increased in their comprehension after

13 to 15 days of instruction, continued to improve during maintenance, and further increases in comprehension were evident during the follow-up phase. Additionally, by the follow-up phase the experimental group was at the same level of comprehension as the comparison groups. These findings indicate that reciprocal teaching may be a viable method for improving and maintaining the reading comprehension of poor readers, and that reciprocal teaching can be used effectively with upper elementary students as well as junior high school students.

Lysynchuk, Pressley and Vye (1990) also found that reciprocal teaching strategies increased the comprehension of poor readers. Seventy-two Grade 4 and Grade 7 students participated in the study. Students with scores below the fiftieth percentile on the Metropolitan Reading Test and Gates-MacGinitie Reading Test were included in the study. Experimental group students were taught reciprocal teaching strategies in groups of two to five over 13 days. Each session included a training passage and an assessment. The first four sessions involved the modelling of the strategies by the teacher, with teacher assistance gradually withdrawn so that by the thirteenth session students were able to employ the strategies independently. Control group students also met in small groups for 13 sessions. They read the training passages and received daily assessments, but were not taught the strategy. Experimental group students performed significantly better than those students in the control group on a standardised reading comprehension measure. These data support the findings of Gilroy et al (1988), and indicate that middle primary students also appear to benefit from reciprocal teaching.

Taylor and Frye (1992) found no significant differences in reading achievement when reciprocal teaching, comprehension monitoring, independent self-questioning and summarising strategies were implemented. One hundred and fifty average and above average Grade 6 students participated in the study. For the first 11 sessions the experimental group were taught to monitor their comprehension and utilise various strategies when they experienced comprehension difficulties. These strategies included using context clues or a dictionary to work out the meaning of an unknown word, asking a question about a confusing idea and re-reading text. Five sessions followed on reciprocal teaching in which students were taught to question, summarise, clarify and predict information within a passage of text. In the final four sessions students were required to use self-questioning strategies when reading and summarise three to four page passages of text. Control group students received regular reading instruction from a developmental basal reading programme. Sessions lasted 30 to 45 minutes. No significant differences were found between average and above average students, or experimental and control group students in their ability to generate their own questions, and to answer questions related to a specific text. On the basis of these results, reciprocal teaching may be most effective when taught in isolation of other reading skills. However, the non-significant results within the study may also be due to the fact that unskilled comprehenders, who seem to benefit most from strategy instruction, were not included in the study.

Overall, research into the effects of strategy instruction upon good and poor readers indicates that poor readers usually benefit more than good readers from this type of instructional approach. The findings reviewed here suggest that good readers are already able to apply reading comprehension strategies to problem-solving situations. Poor readers, on the other hand, lack knowledge of these strategies and rarely apply them in a meaningful context. Consequently, intensive strategy instruction is more likely to improve the comprehension of poor readers. The educational implications of these findings are that strategy instruction may be of particular benefit within remedial programmes. However, little of the research to date has been carried out on the effects of such treatments upon class groups of 20 to 32 students. In particular, if teachers are required to cater for a range of reading abilities within the regular classroom, research is needed on the magnitude of effects of strategy instruction upon class groups of normal size.

Vocabulary Acquisition from Context

Many research studies have investigated whether incidental learning from context does occur, and compared incidental acquisition from context with other methods of vocabulary instruction. Learning vocabulary from context is focused upon because the growth in students' vocabularies during primary school is assumed to be due to learning from context.

The following review includes some of the literature related to incidental acquisition of vocabulary from context. Studies investigating whether incidental vocabulary learning does occur are discussed first, followed by those studies

comparing other vocabulary methods with learning from context. Finally, studies employing instruction to aid the acquisition of vocabulary from context are discussed.

Jenkins, Stein and Wysocki (1984) investigated whether Grade 5 students are able to acquire vocabulary incidentally from context. Eighteen target words were selected, assumed to be low frequency words for Grade 5 students. For each word, 10 paragraphs were written, approximately four to six sentences in length. Students were randomly assigned to conditions receiving zero, two, six or 10 exposures to each word. Posttest measures included three vocabulary tests and a reading comprehension test. The vocabulary tests involved writing a definition for the target words, selecting a definition from a number of choices and completing sentences which required a knowledge of each word's meaning. Results indicated that the more frequent the exposure to each word, the greater the effect upon vocabulary acquisition, but that more than two exposures were required to increase vocabulary acquisition. Reading comprehension results showed that the 10 exposures were needed to yield a significant improvement in reading comprehension. These results suggest that first, students can acquire vocabulary incidentally from context, but that they require more than one exposure to each word. Secondly, in order to increase reading comprehension, students require frequent exposures to target words. Finally, these data support the argument that incidental vocabulary learning may be the cause of primary school students' rapid vocabulary growth.

These findings were subsequently supported when Grade 8 students' incidental acquisition of vocabulary was investigated (Nagy, Herman & Anderson, 1985). Natural texts were employed as opposed to the constructed texts utilised by Jenkins et al (1984). *Natural texts* are "sentences written to communicate ideas, not to teach words meanings specifically" (Herman & Dole, 1988, p. 43). Seventy average and above average students were selected for the study as identified by the Gates-MacGinitie Reading Test. Students were randomly assigned to read narrative or expository text passages, each of which contained the fifteen target words. After reading one of the texts, students completed a test, indicating whether they remembered viewing the target words within the passages. Following this test, students were randomly assigned to interviewers who scored their knowledge of the target words. Interrater reliability was above 0.7 for each score given. Results confirmed that learning from context does take place, with narrative and expository texts showing no significant differences in assisting learning from context. This study supports Jenkins et al (1984) findings that students are able to acquire vocabulary incidentally from context. However, this study differed from many others in this area in that only one exposure to each target word yielded improvements in vocabulary acquisition. As with the Jenkins et al (1984) study these findings imply that incidental learning may account for primary school students' vocabulary growth.

Another American study revealed that students are able to acquire vocabulary incidentally when reading natural texts (Nagy, Anderson & Herman, 1987). Subjects were 352 Grade 3, 5 and 7 students. Students read two expository

or two narrative passages taken from grade level textbooks. The most difficult words within each text were selected as the target words. The number of target words ranged from 66 to 78 dependent upon the grade level of the students, with each target word appearing only once within the texts. In the posttest, students completed a multiple-choice vocabulary test aimed at assessing their knowledge of the target words. Posttest results indicated that small but significant gains in vocabulary occurred as a result of reading the passages. As with their previous study, one exposure to each target word resulted in reliable gains in vocabulary. Therefore, more research is required on the number of exposures necessary to cause significant gains in vocabulary knowledge. Secondly, the implication of these studies is that incidental acquisition may well account for a large proportion of the gains in vocabulary knowledge during primary schooling. If this is the case, it may well be that less time should be spent in direct teaching of vocabulary and more time allocated for students to acquire vocabulary through silent reading activities.

Gipe (1974) conducted one of the earliest studies comparing methods of vocabulary instruction with the incidental acquisition of vocabulary from context. Subjects were 221 Grade 3 and 5 students. Within each year level, intact classes were randomly assigned to one of four methods labelled as association, category, context or dictionary support procedures. The association method involved the pairing of the target word with a familiar synonym, followed by the memorisation of the pair of words. The category method required the subjects to add their own words to list words that fitted a general category. The lists provided contained one

target word and three familiar words. Students studied the lists and then recategorised the words when given them in random order. The context method utilised the target words in a three sentence passage, where the target word was featured in each sentence. Other vocabulary used within the passages was familiar to the students. After reading the passages, students were required to answer a question using a word or phrase from their personal experience. This question aimed to help the students clarify each word's meaning. In the dictionary method students located and wrote each word's definition, as well as writing the word in a sentence. Ninety-six target words were selected, and randomly assigned to sets of 12 for each week of instruction. Students received three 15-minute sessions each week for eight weeks. Results showed that the context method was significantly more effective than the other methods for both grade levels. Comparisons between good and poor readers indicated that the context method was beneficial for both groups, and that good readers performed significantly better than poor readers. These results suggest that, provided methods of vocabulary instruction introduce new words in a contextual setting that is familiar to students, gains in vocabulary may occur across age and ability groups. This implies that compared with all other methods, the most effective vocabulary instruction involves associating word meanings with students' prior knowledge and experiences.

A context method was significantly less effective in assisting the acquisition of vocabulary when compared with a dictionary and teacher interaction method (Eeds & Cockrum, 1985). Seventy-one Grade 5 students were selected to

participate in the study, and randomly assigned to one of the three treatment conditions. All groups read the chapter for the day, received a specified treatment, and then worked on the unit activities. In the teacher interaction group students wrote each target word, used the word in a sentence, gave examples and non-examples of the word using previous experiences, and then wrote the word's definition. The dictionary group looked up the target words in the dictionary and read the definitions, copying the definition they found most appropriate. The context group participated in a teacher-led discussion about the chapter. Students received 10 sessions, all one hour in duration. Results indicated that the interaction condition was significantly more effective than the other conditions, particularly for low performing students. Low performing students within the interaction group achieved higher scores than the high performing students within the other two conditions. These results support Gipe (1974), as the method involving the activation of students' personal experiences and prior knowledge was shown to be the most effective. Although the method was labelled differently, this common element may be crucial to teaching vocabulary effectively.

Schatz and Baldwin (1986) compared the incidental acquisition of vocabulary from context with a no-context condition in three separate studies. In each of the first two experiments approximately 90 students were randomly assigned to complete either the context or no-context tests. The words-in-context test included 25 passages, with the target words appearing once within each passage. This was followed by a question about the meaning of the target word. In one experiment

these questions were multiple-choice, in the other students were required to write their own definition. The words-in-isolation test contained the same questions without the passage preceding each question. Results indicated no significant difference between each group's scores, suggesting that students could not or chose not to use context to infer word meanings. In the remaining experiment, 39 Grade 11 students were assigned to the same conditions, however the context condition also included passages from four different content areas: history texts, science texts, newspapers and magazines. Again, no significant differences were found between the groups' test scores, but history texts elicited more correct responses to word meanings. All three studies indicated that context clues do not necessarily assist students to derive word meanings. Students may require assistance to use context, or texts may need to be written to aid the acquisition of vocabulary.

McDaniel and Pressley (1989) compared another specific instructional method, the keyword method, with the incidental acquisition of vocabulary. Seventy-five university students participated in the study, randomly assigned to the keyword, semantic context or control conditions. At the beginning of all sessions the students were presented with 45 vocabulary words and given 30 seconds to study each word's meaning. Students in the keyword condition were taught to learn a keyword similar to that of the target word, then to form a visual image that linked the meanings of both words. Semantic context group students were provided with a paragraph containing the target word at least twice, followed by its dictionary definition. Control group students were simply asked to match the target words with

their dictionary definition. The keyword method was significantly more effective than the two remaining conditions with regard to text comprehension and recall of vocabulary meanings. These findings suggest that instruction involving definitions is just as, if not more effective than instruction also utilising contextual information. Therefore, in order to enhance vocabulary acquisition, methods employing definitions may need to be the major component of vocabulary instruction.

Learning words from context may be the most obvious method of increasing vocabulary significantly, but students are often unable to use context clues effectively to acquire vocabulary. Studies indicate that students may require instruction and practice at using contextual clues to infer word meanings. Consequently, other methods of instruction have appeared to be more beneficial within many investigations. For this reason, researchers have also begun to examine the consequences of instruction in assisting the utilisation of context clues to determine the meanings of unknown words.

One of the first studies to determine the effects of the use of context strategies upon Grade 5 students' reading comprehension, vocabulary-in-context and context comprehension revealed that context clue instruction can be effective (Hafner, 1965). Seventy-five students from three intact classes participated in the study. Two classes acted as control groups, one as an experimental group. Experimental group students were taught to use contextual strategies such as contrast, explanatory words and phrases, and inference to work out the meanings of unknown words and to comprehend text. Control group students continued with

their regular language instruction. Twelve sessions occurred over a period of four weeks, each session 35 minutes in length. Comparisons between the experimental group and each control group indicated that the intervention condition produced significantly better results on the reading comprehension measure than the control condition. This result suggests that students can be taught to use context clues more effectively, and that teaching students to use context clues may not necessarily improve reading comprehension by first improving vocabulary acquisition.

These findings were not supported in a later study by Carnine, Kameenui and Coyle (1984). In one treatment students were taught a rule (e.g., "When there's a hard word in a sentence, look for other words that tell you more about that word"), and given systematic practice, including corrective feedback, to apply the rule to learning words from context. In the second treatment students received the same amount of practice and corrective feedback, without the assistance of the rule. Control group students received no instruction. Students received their instruction individually for three sessions. Both conditions were more effective than no intervention, while no significant differences were apparent between the two intervention conditions. These findings suggest that, rather than teaching a rule or strategy, practice may be the major component in facilitating effective learning from context.

Jenkins, Matlock and Slocum (1989) compared the specific teaching of individual word meanings with deriving meanings from context using the SCANR

strategy. Subjects were 135 Grade 5 students from six intact classes. The classes were randomly assigned to the words-in-isolation condition or the strategy condition. Each class was also assigned to a practice condition: low, medium or high amounts of practice. The number of teaching sessions therefore varied from 9 to 20, depending upon the practice condition. Students within the words-in-isolation condition were taught the 45 target word definitions through direct instruction. Strategy group students were taught to derive a word's meaning using the SCANR strategy after viewing the word in two sentences. The SCANR strategy employed the following steps: substitute a word or expression for the unknown word, check the context for clues that support your idea, ask if the substitution fits all context clues, decide if you need a new idea and, if so, revise your idea to fit the context. On all measures the specific instruction was more effective than the teaching of the strategy for teaching specific words. In learning specific words the more practice given, the more beneficial the instruction. On three of the four measures the strategy training was significantly more effective than specific instruction in teaching students to derive word meanings from context. Medium or high amounts of practice (i.e., three or six exposures to the words) were required to make the instruction effective. These findings support Hafner's conclusion (1965) that students can be taught to improve their use of context and, consequently, their vocabulary acquisition. However, this investigation suggests that such instruction may only be advantageous if students are shown target words within a range of specific contexts.

Context instruction was shown to be effective when Grade 7 and 8 students were taught to use context when deriving the meanings of unknown words within a passage (Buikema & Graves, 1993). Thirty-eight students participated in the study and were randomly assigned to either the context or control conditions. Context group students were taught to derive word meanings from context by implementing a method used to solve riddles. Students then read passages with unknown words and systematically isolated descriptive cues which helped to derive the word's meaning. At the same time control group students followed their usual language curriculum. The context group significantly outperformed the control group on all vocabulary measures. These results support previous findings that students can be taught to utilise context clues in a more constructive manner.

In summary, several important findings have emerged from the research into the acquisition of vocabulary from context. First, students can acquire knowledge of vocabulary incidentally when reading constructed or natural texts. Further research is needed, however, to identify the number of word exposures necessary to facilitate acquisition as studies have not shown a consistent pattern. Secondly, methods of instruction that have included students' prior knowledge, experiences and word definitions were sometimes more beneficial than contextual methods. Learning from context did not consistently outperform other vocabulary approaches. Finally, although studies indicate that students can be taught to utilise context clues more effectively, it is unclear whether reading comprehension improves directly, or as a result of improvements in vocabulary acquisition. An indication of whether reading

comprehension improvement is tied to vocabulary acquisition may give teachers a better idea of where to focus instruction.

One important conclusion that can be made about vocabulary instruction is that vocabulary should not always be taught word by word. Although specific instruction may be relevant in some cases, it is a more plausible assumption that students acquire vocabulary through more generative acquisition strategies. Further research into teaching generative strategies is therefore required so that all individuals may have the opportunity to develop a comprehensive vocabulary.

Gender Differences in Reading

Males and females typically perform differently on a number of language-related tasks (Asher & Markell, 1974; Dykstra, 1969; Gates, 1961). Many studies have attempted to ascertain the pattern of these differences, and possible reasons for their existence. In the field of reading psychology these differences have attracted substantial attention, with female students perceived to perform better than male students on reading tasks. The following review summarises several studies that have tested for differences in the reading achievement of males and females. Studies on some general aspects of reading ability are discussed first, followed by those that focus on reading comprehension and vocabulary knowledge.

Studies examining particular differences in the reading achievement of boys and girls have produced anomalous findings at different grade levels. Asher and Markell (1974) found a significant difference in the reading achievement of Grade 5 boys and girls. Eighty-seven students participated in the study, 49 boys and 38

girls. Reading achievement was based on scores from the Scholastic Testing Service Test. Girls achieved significantly better results on the reading test than boys. A later study found no significant differences in the reading achievement of boys and girls in Grades 1 to 4 (Steiner, Steinen & Newman, 1981). All students completed the reading comprehension section of the Iowa Test of Basic Skills. Results indicated that for the entire sample there was no significant difference in the reading scores of the boys and girls. The girls outperformed the boys in Grade 2 and 3 and the boys scored higher in Grades 1 and 4, but none of these results was significant. These findings contradicted the Asher et al (1974) study.

The reading performance of Grade 2 boys and girls was also compared in two American primary schools (Hall, Halpin, Halpin, Worden and vonEschenbach, 1987). The study involved 163 students: the sample included 84 boys and 79 girls. Students were administered the Metropolitan Achievement Test in Reading. Again, no significant differences were found in the reading scores of boys and girls. This result gives reason to doubt the argument that gender differences exist in reading during primary school and level out by the time students reach high school.

Gates (1961) compared the reading achievement of primary school boys and girls. The study was based on the test scores of 13, 114 students, with both genders equally represented in the test population. Students aged between seven and thirteen participated in the study. Reading achievement was measured by three Gates Reading Survey Tests-Speed of Reading, Reading Vocabulary and Level of Comprehension. Results revealed that in all grades girls achieved higher mean raw

scores than boys. Most of these comparisons resulted in differences that were significant.

Dykstra (1969) later supported the thrust of these conclusions when investigating differences in Grade 1 students' reading achievements. Subjects included 1,659 boys and 1,624 girls. Five subtests of the Stanford Achievement Test were used to measure reading achievement. The subtests included word reading, reading comprehension, reading vocabulary, spelling and word study skills. Results indicated that girls performed significantly better on all tests except the vocabulary measure. They appeared to be superior on those tests involving visual and auditory discrimination, which are component skills of reading and spelling tasks.

A Hispanic study indicated a significant difference in reading vocabulary, favouring male students (Rivera, 1983). Subjects included 159 college students who completed the Nelson Denny Test. The test provided scores in vocabulary, comprehension and reading rate. The results indicated that male students significantly outperformed female students on the vocabulary measure. Male students also had higher raw mean scores than female students on the other measures. However, these results were not significant and contrast many other studies where male students were significantly outperformed by female students. Better achievement by boys in vocabulary also paralleled the Dykstra (1969) study.

One study at the high school and college level found no significant gender differences in reading among students (Hogrebe, Nist and Newman, 1985).

Approximately 50,000 students participated in the study. Reading scores were obtained from the High School and Beyond national survey, including a vocabulary and reading comprehension measure. Results indicated no significant difference in reading achievement between the genders, suggesting that if differences occur at any time within schooling, they level out by the time students reach high school.

Similarly, Drane, Halpin, Halpin, vonEschenbach and Worden (1989) found no significant difference in the reading proficiency of Grade 2 boys and girls. Eighty-four boys and 79 girls participated in the study. All were tested using the Metropolitan Achievement Tests, measuring reading comprehension, sight vocabulary, vocabulary in context and word part clues. Results indicated no significant differences in the reading scores of both genders. These findings were consistent with the Hall et al (1987) study, maintaining that male and female Grade 2 students perform at a similar reading level.

In summary, the research investigating gender differences in reading has not indicated a consistent result favouring either gender. Earlier studies seemed to indicate that females are more proficient at reading, while many of the later studies suggest no significant differences between genders. Various age groups have been tested and no consistent patterns have emerged regarding differences at age, level of schooling or type of reading performance. Overall, the evidence suggests that female students are more likely than male students to perform at significantly better levels on reading tasks.

Summary

In general, strategy instruction research has focused upon teaching poor readers the reading strategies commonly utilised by good readers. This approach has been employed within many studies because good readers have been found to use particular strategies to good effect in comprehending text. In recent years, researchers have investigated the consequences of teaching these strategies to students classified as good and poor readers. Research indicates that most strategy instruction interventions have benefited poor readers more than good readers. Good readers independently acquire many of the strategies taught and therefore improve relatively less from the instruction. Poor readers, on the other hand, are able to benefit considerably from being taught the strategies because they lack initial knowledge of the strategies.

Research into vocabulary acquisition has indicated that generative vocabulary instruction is probably more beneficial to students than specific vocabulary instruction because students can apply these skills to a large number of words in a variety of situations. Specific methods require the direct teaching of each individual word within the classroom. Considering the vast vocabulary required to function competently within both the school and the community, specific methods are not feasible because they require teacher time that is not available.

One can make three important points with regard to learning vocabulary from context. First, it was found that students were generally able to acquire vocabulary from context and this finding is consistent across a variety of text types. Results of

experiments which utilised both constructed and natural texts have shown significant gains in vocabulary. However, the number of word exposures required to facilitate vocabulary acquisition has varied within the studies. The underlying trend indicated that more than one exposure to words in context was required to facilitate acquisition. Secondly, the studies reviewed here indicated that other methods of acquiring new vocabulary were often more effective than contextual methods. In particular, methods that involved relating word meanings to students' prior knowledge and experiences seemed to be effective consistently, regardless of the label given to describe the technique. Thirdly, context clue instruction appeared to increase students' ability to acquire new vocabulary. However, it is unclear whether vocabulary acquisition influences reading comprehension directly, or whether vocabulary acquisition acts through a mediating variable to affect reading comprehension.

The published research that has investigated gender differences in reading has produced anomalous results. Earlier studies indicated that females were more proficient at reading, while many of the later studies suggest no significant differences between genders. No consistent patterns were reflected in the significant literature. Student age and year of schooling have not appeared as important factors. Overall, the research indicated that female students are more likely than male students to perform at significantly better levels on reading tasks, but that these differences are often relatively small.

On the basis of this research, several predictions can be made as to the results of the current study. First, it seems likely that poor readers are more likely to benefit from the strategy instruction than good readers. Secondly, it is probable that all students will be able to acquire vocabulary more effectively from context as a result of the instruction. Finally, it is most likely that there will be relatively low order differences between genders in both reading comprehension and vocabulary achievement. However, if differences do occur, research indicates that the data will probably favour female students.

CHAPTER THREE

Method of Investigation

This research contained two separate investigations. Study 1 included the first school where the instruction was implemented. Within this study the instructional procedures and classroom management procedures were practised so that they were more focussed for the second study. Additionally, an attempt was made to build rapport with the students. Shortcomings with aspects of the instruction were also noted so that these could be corrected for Study 2. In effect, Study 1 served as the pilot study for Study 2.

Subjects

The subjects within this study were selected on the basis that their class teachers gave permission for the study to be undertaken in their class. Two schools were selected, involving two Grade 5 classes from each school. Within each school the students were randomly assigned to one of two groups. One group from each school was then randomly assigned to the SI condition, while the remaining group was assigned to the RI condition. The first school within the intervention was known as Study 1, the second as Study 2.

Measures

Two independent measures were administered during this study. These measures were the Progressive Achievement Test (PAT) and a Vocabulary Acquisition Test (VOCAC Test).

Progressive Achievement Test

PAT is a standardised test used to assess reading comprehension skills (ACER, 1986). It measures skills in comprehension and interpretation of prose materials. The question items in the test are either factual or inferential. Factual items test comprehension of the facts and ideas explicitly stated in the passage. This includes the ability to locate facts, to follow directions and to note sequences of events. Inferential items demand a level of cognition beyond word identification and recall of facts. This involves the reader making inferences from information either explicit or implicit in the text regarding the author's intention, mood and point of view, establishing the main idea and supporting details in a passage, distinguishing between fact and opinion, drawing conclusions and predicting future events. The test consists of passages to be read silently, followed by four or five multiple choice questions related to each passage. The number and level of the passages differs depending on the age of the students being tested.

Reliability of the tests using the KR-20 index was found to be 0.87 (ACER, 1986). This means that the test items appear to be measuring the same ability. This reliability coefficient is consistent with the figures obtained from one of the states during the 1970 standardisation, and with split-half and equivalent forms reliabilities obtained in the NZCER standardisation.

The validity of the tests was evaluated by expert teachers of reading to ensure that the test items were appropriate for each age group, and that they adequately represented the competencies measured by the test. Studies during the

development of the test included correlations between written scores on one form of the test, and oral scores on the alternate form. Scores above 0.85 indicated that the test is an accurate guide to the level of material which a student can understand (ACER, 1986). Results above 0.75 were also obtained from the correlation of PAT scores with those from other reading tests at three different year levels. On the basis of this information reported within the test manual, the content is assumed to be valid.

VOCAC Test

The VOCAC test was administered before and after the study. This test was devised to measure students' vocabulary acquisition from context. Passages within the test were obtained from a similar study (Jenkins, Matlock & Slocum, 1989) and modified for use in this study.

The VOCAC test consists of 16 passages which contain one synthetic (nonsense) word per passage (Appendix D and Table 3.2). The use of these words reduces the impact that the prior knowledge of each student could have on the end results; in addition the skill of deriving word meanings from text is measured rather than a memorisation skill. A multiple-choice question containing three distractors and the correct answer followed each passage. The students were required to choose the item which most suitably described the meaning of the synthetic word within the passage.

Table 3.1

VOCAC Test Item

My favourite store is the new candy shop. The owners carefully arranged the shop window to **examite** people to come into the store. They have decorated the window with boxes of chocolates, jars of peppermint sticks, and gold-wrapped candies. In the very centre of the window is a large gingerbread house surrounded by a wall of tiny chocolate cakes. It looks so tempting that people just have to come in.

Examite means:

- (a) train (b) excite (c) tempt (d) help
-

The validity of the content was ascertained by two primary school Grade 4 teachers. The teachers stated that the test was too difficult for Grade 4 students because they believed it would not indicate the range of ability within that grade level. They also indicated that several of the test items contained distractors too close in meaning to one another. On their recommendation, therefore, the study was altered to include Grade 5 students, and several test items were altered before commencing the pilot study.

A pilot study involving 89 Grade 5 students was conducted to determine the internal consistency of the multiple choice questions. With the removal of the four

least consistent items, the reliability of the test was 0.70. The remaining test items were also altered so that the reliability might be increased in the actual study. Reliability estimates obtained for Study 1 and Study 2 indicated that the changes made resulted in a more reliable instrument. The reliabilities ranged from 0.74 to 0.87 for the pretests and posttests respectively.

Procedures

Pretest

Students in both groups were pretested by the researcher and an assistant using the PAT and the VOCAC Tests. The students were not assigned to their instructional groups for the pretest, but remained within their respective classes. Time allocation for the PAT was 40 minutes, while no limit was set for the VOCAC Test. The majority of students completed the test within 20 minutes, while a few students required 30 minutes.

Strategy Instruction

The SI group were taught to acquire vocabulary from context using the SCANR strategy (Appendix B and Table 3.2). At the beginning of the first lesson the researcher told the students that they were going to learn how to work out the meaning of a word within a passage. They were encouraged to do their best work and listen very carefully to their instructions. The students were then given a worksheet containing the passages for that day. After reading each passage the researcher taught the students to use the following steps to derive the unknown word within each passage :

1. Think about what the passage is about
2. Look at the choices
3. Choose the answer you think is right
4. Make sure the meaning matches all the clues
5. If not, choose another meaning
6. Make sure that the clues do not show you that another meaning is the correct answer

Step 1 involved an explanation by the students as to what the passage was about. This step was included to make sure that students had a general understanding of the text before they were told to identify specific clues. During Step 2 the students scanned the four possible meanings of the nonsense word. In Step 3 they judged which answer was correct. This answer was checked during Step 4 whereby the students looked for sentences, phrases and keywords that supported that meaning. If the students found that there were no clues to support the meaning, they selected another meaning as indicated in Step 5. An answer supported by clues was then re-checked by making sure that the three remaining answers were not correct (Step 6). The re-checking involved making sure that there were no clues to support the other answers. If there were no clues to support the remaining answers, the students circled their answers. If there were clues, the students were required to judge which answer had more clues supporting it within the passage.

Table 3.2

Lesson excerpt: Strategy Instruction

-
1. Take a look at the first passage. Follow along as I read it. I want you to think about what I am reading and think about the meanings of all the words. (Read passage 1).
 2. First I need to say what the passage is about. The passage is about the city and how the houses are built so close together, the cars are bumper to bumper and it is almost impossible to find a parking spot.
 3. I don't know what the word **quelded** means. To work out what it means look at the meanings under the passage. First, I'll put each meaning into the sentence so that I can have a guess at what the meaning might be. (Read each meaning aloud, substituting it into the passage). I think that the meaning is **noisy**.
 4. Now I will show you how to check the answer. Check in the passage to see whether there are any clues that show you that **quelded** means **noisy**. I can't find any clues that show me that **quelded** means **noisy**, so **noisy** can't be the correct meaning.
 5. I'll try another meaning. This time I'll try **crowded**. I need to check if there are any clues in the passage to show me that **crowded** is the meaning of the word **quelded**. The first clue is that the houses are built close together. The second clue is that all the cars are bumper to bumper and the third clue is that it is almost impossible to find a parking spot. All these clues describe how crowded it is in the city, so **crowded** must be the meaning of **quelded**.
 6. The last thing I have to do to make sure that **crowded** is the correct answer is check that there are no clues to show me that the meaning is **interesting** or **polluted**. There are no clues to show me that **quelded** means **interesting** or **polluted**, so **crowded** must be the correct meaning. Then we must circle (d).
-

Lesson one included the presentation of the strategy, the teacher modelling of the strategy, guided practice with four items, followed by independent practice with four items that were later marked with the class. Lesson two followed the same format but a review of the strategy began the lesson and the independent practice items were increased to six. Lesson three differed in that there were three guided practice items and seven independent practice examples. All the items used within the lessons were identical in layout to the VOCAC Test items. Throughout all lessons the students were prompted at any step they had forgotten or when they had trouble in applying the steps to the problem situation.

Regular Instruction

RI students were taught vocabulary acquisition from context using what was considered to be regular instructional methods (Appendix C and Table 3.3).

Research indicates that regular methods of instruction are generally contained within other language activities and at best involve brief unsystematic instruction, along with practice (Beck, McKeown, McCaslin & Burkes, 1979; Durkin, 1978-79; Jenkins & Dixon, 1983).

In the RI lessons the students were given exactly the same instructions as the SI lessons, however, there was no strategy included. The students were told to find the meanings of the nonsense words by deciding which meaning made sense. Each lesson contained the same number of guided practice and independent practice items as the SI group, but students were not given a series of steps to

Table 3.3

Lesson Excerpt: Regular Instruction

-
1. Look at the first passage. Follow along as I read it. (Read passage 1).
 2. Look at the meanings under the passage. (Read each meaning aloud). Let's put each meaning into the passage so that we can decide which meaning makes sense. (Read out the passage substituting each meaning for the nonsense word).
 3. I think that the best meaning is **crowded** because in the passage it says that the houses are built close together in the city, cars are bumper to bumper and it is almost impossible to find a parking spot. **Crowded** makes the most sense in the passage, so you need to circle (d).
-

assist with answering the questions. They were told to find the meaning that made the most sense and were encouraged to justify why it made the most sense.

Students within this group received exactly the same practice items as the SI group.

Lessons within the RI group followed the same format to the SI group, without the use of the specified strategy. This resulted in less direct instructional time for the RI group. In order to balance the instructional time between the groups, the RI group received ten minutes silent reading time before explicit instruction began. Silent reading was chosen because research indicates that students may learn strategies for comprehending text implicitly from reading activities, and it is most likely to be the way in which vocabulary knowledge increases significantly at this year level (Sternberg, 1987).

Posttest

Students in both groups were posttested using the PAT and VOCAC Tests. The students were tested in their original classes as with the pretest. Time allocations were identical to the pretest situation.

Fidelity of Instruction

Throughout the data collection, the researcher and an assistant presented the instruction to all groups. In Study 1, the researcher taught the RI group and the assistant the SI group, while in the second study these roles were reversed. Fidelity of instruction was assessed by an independent observer, a Bachelor of Education student, who completed a checklist supporting that the regular and strategy lessons were taught in the method described previously. He observed one regular and one strategy lesson given by each teacher. These observations indicated that both teachers taught in the manner described for each type of instruction, and that the instructional time given to the groups was equal.

Research Questions and Hypotheses

Main Question

- 1) Is strategy instruction significantly more effective than existing vocabulary instruction over set time periods in improving vocabulary acquisition from context?

Null Hypothesis. H_0 : The Groups x Time interaction will not be significant on the vocabulary measure. *H_1 :* The Groups x Time interaction will be significant on the vocabulary measure, favouring strategy instruction students on the posttest.

Statistical Test. Analysis of variance was used to test the hypothesis listed above. *Significance Level.* The .05 level was used to test the significance of the analysis.

Subsidiary Questions

- 2) Is strategy instruction significantly more effective than existing instruction over set time periods in improving reading comprehension?

Null hypothesis. H_0 : The Groups x Time interaction will not be significant on the reading comprehension measure. *H_1 :* The Groups x Time interaction will be significant on the reading comprehension measure, favouring strategy instruction students in the posttest.

Statistical test. Analysis of variance was used to test the hypothesis listed above. *Significance level.* The .05 level was used to test the significance of the analysis.

- 3) Is there a significant difference in the vocabulary scores of regular and strategy group students at different levels of reading skill?

Null hypothesis. H_0 : The Groups x Ability interaction will not be significant on the vocabulary measure. *H_1 :* The Groups x Ability interaction will be significant on the vocabulary measure, favouring strategy instruction students with below average reading skills.

Statistical test. Analysis of variance was used to test the hypothesis listed above. *Significance level.* The .05 level was used to test the significance of the analysis.

- 4) Is there a significant difference in the reading comprehension scores of regular and strategy group students at different levels of reading skill?

Null hypothesis. H_0 : The Groups x Ability interaction will not be significant on the reading comprehension measure. *H_1 :* The Groups x Ability interaction will be significant on the reading comprehension measure, favouring strategy instruction students with below average reading skills.

Statistical test. Analysis of variance was used to test the hypothesis listed above. *Significance level.* The .05 level was used to test the significance of the analysis.

- 5) Is there a significant difference in the vocabulary scores of boys and girls?

Null hypothesis. H_0 : The gender main effect will not be significant on the vocabulary measure. *H_1 :* The gender main effect will be significant on the vocabulary measure, favouring girls.

Statistical test. Analysis of variance was used to test the hypothesis listed above. *Significance level.* The .05 level was used to test the significance of the analysis.

- 6) Is there a significant difference in the reading comprehension scores of boys and girls?

Null hypothesis. H_0 : The gender main effect will not be significant on the reading comprehension measure. *H_1 :* The gender main effect will be significant on the reading comprehension measure, favouring girls.

Statistical test. Analysis of variance was used to test the hypothesis listed above. *Significance level.* The .05 level was used to test the significance of the analysis.

Other hypotheses for main effects, two-way, three-way and four-way interactions are not listed above. These hypotheses were not predicted to reveal significant effects and were not of importance to the major questions referred to above.

CHAPTER FOUR

Results

This chapter contains a summary of the descriptive data and inferential statistics obtained from Study 1 and Study 2 on both the vocabulary and reading comprehension measures. Descriptive results include test means and standard deviations. Analysis of variance was used to evaluate the hypotheses. The findings for Study 1 are discussed first, followed by Study 2. The results for each dependent measure are described separately, and the implications for each of the hypotheses are discussed where relevant. All data were analysed on SPSS for Windows: Release 6.0 (Norussis, 1993). A summary is included at the end of the chapter and the statistical data are presented in Appendix A .

Study 1

The aim of the first study was to provide instruction to allow students to become proficient in acquiring vocabulary from context, using either regular or strategy instruction. It was a preliminary investigation. Therefore, Study 1 served as a pilot study.

Subjects

The study commenced with 63 subjects, 32 of whom were in the control group and 31 in the experimental group. Of the subjects initially involved in the study, full data on 51 subjects were obtained. These data included 27 subjects from the control group and 24 subjects from the experimental group. The attrition was

due to absences during the pretest, posttest or from at least one of the three instructional lessons. From this sample, equal group sizes were obtained for boys and girls, with above average and below average students within each condition. Subjects were randomly dropped from the analysis to facilitate the selection of equal group sizes. The data analysis was then conducted on 40 students, 20 within each condition. Ten boys and ten girls were included within the experimental and control groups. Within each cell four students were above average and six below average in reading performance.

Vocabulary Scores

Table 4.1 presents the pretest-posttest data for the VOCAC Test. It summarises the means and standard deviations for the treatment conditions and for both gender and ability groups.

A four-factor ANOVA with repeated measures was conducted to determine the main effects and interactions between each of the variables (Appendix A). There was a 2 x 2 x 2 design on the sample. The repeated measures factor (at 2 levels) was also incorporated into the design. No significant between or within subject interactions were found. It was hypothesised that the Groups x Time interaction would be significant. However, no such finding was observed. Therefore, null hypotheses one, three and five were supported.

Table 4.1

Summary of VOCAC Test means and standard deviations for the treatment conditions, gender and ability groups

Group	N	Pretest Mean (SD)	Posttest Mean (SD)
Control	20	11.1 (2.7)	12.6 (3.4)
Experimental	20	10.2 (3.4)	11.4 (3.8)
Boys	20	10.8 (2.5)	12.4 (2.6)
Girls	20	10.5 (3.8)	11.6 (4.8)
Above average students	16	13.0 (1.7)	13.9 (2.2)
Below average students	24	9.0 (2.9)	10.7 (3.8)

Note. Maximum VOCAC score = 16.0

A reliable difference was indicated for ability, ($F(1, 32) = 16.03, p < .05$). Inspection of the means revealed that above average students scored at a higher level than below average students. In the pretest below average students had a mean score of 9, above average students 13. In the posttest below average students improved to 10.7, while above average students improved to 13.7. Considering that students were termed above and below average as a result of their pretest scores, it is not surprising that above average students achieved higher scores overall than below average students.

Results also revealed a significant within-subject effect for time ($F(1, 32) = 16.48, p < .05$). Examination of the means favoured posttest scores, indicating that vocabulary acquisition increased as a result of the additional attention and practice in acquiring vocabulary from context.

The analysis indicated no significant main effects for the experimental condition ($F(1, 32) = 1.15, p > .05$) or gender ($F(1, 32) = .08, p > .05$).

Reading Comprehension Scores

Table 4.2 presents the pretest-posttest data for the Progressive Achievement Test of reading comprehension. It summarises the means and standard deviations for the treatment conditions and for both gender and ability groups.

A four-factor ANOVA with repeated measures was conducted to determine the main effects and interactions between each of the variables (Appendix A). The analysis indicated no significant four-way, three-way or two-way interactions between or within subjects. The Groups x Time interaction was not significant. Consequently, null hypotheses two, four and six were supported.

Table 4.2

Summary of PAT means and standard deviations for the treatment conditions, gender and ability groups

Group	N	Pretest Mean (SD)	Posttest Mean (SD)
Control	20	19.5 (6.6)	18.9 (5.2)
Experimental	20	18.4 (6.2)	16.4 (7.3)
Boys	20	19.1 (5.7)	18.6 (6.3)
Girls	20	18.8 (7.1)	16.6 (6.4)
Above average students	16	24.8 (3.6)	22.8 (5.4)
Below average students	24	15.0 (4.5)	14.1 (4.3)

Note. Maximum PAT score = 41.0

A reliable difference was found between-subjects for ability ($F(1, 32) = 51.46, p < .05$). Examination of the means indicated that above average students achieved at a higher level on the reading comprehension measure than below average students. As with the vocabulary measure, students were termed above and below average on the basis of their pretest scores. This result confirms the classification system used to group subjects into ability groups.

No significant main effects were found for the between-subject factor for experimental condition ($F(1, 32) = 1.93, p > .05$) or gender of subjects ($F(1, 32) = .82, p > .05$). A within-subject analysis also found no significant main effect from pretest to posttest ($F(1, 32) = 3.56, p > .05$). Inspection of the means indicates that following instruction reading comprehension performance seemed to be less than that indicated from the pretest. This result suggests that the test may not have been sensitive to change over the instructional period, or that the instruction employed was not effective.

Study 2

As a result of implementing both regular and strategy instruction within Study 1 several weaknesses in study design and implementation were identified. First, observational evidence suggested that the strategy instruction may have been presented too slowly and therefore the students were not stimulated by the lessons. The brisk pacing of lessons assists to sustain student attention during instruction, thus increasing learning outcomes (Carnine, Silbert & Kameenui, 1990). Secondly, the language utilised within both instructional lessons was too complex and resulted

in the poor application of both techniques by the students. Finally, teacher-student rapport was lacking, hence the students were not fully comfortable with the lesson format.

As a result of the first study, several changes were made to the presentation of the lessons in Study 2. Teacher modelling of the learning strategy was brisker, the language used to present the strategy was modified so that students were unlikely to become confused, and an attempt was made to build rapport with the students before and during the lessons so that they were comfortable with the forms of instruction. However, the instructional techniques remained identical to the first study. Therefore, the second study enabled the instructional methods and analysis techniques to test the stated hypotheses.

Subjects

The study commenced with 59 subjects. There were 29 subjects in the control group and 30 subjects in the experimental group. Of these subjects initially involved in the study, data on 58 subjects were obtained. These data included 28 subjects from the control group and 30 subjects from the experimental group. The attrition was due an absentee from the pretest. From this sample, students were randomly selected so that equal group sizes were obtained for boys and girls, above average and below average students within each condition. The data analysis was then conducted on 48 students, 24 within each condition. Twelve boys and twelve girls were included within the control and experimental groups. Within each cell there were six above average and six below average students.

Vocabulary Scores

Table 4.3 presents the pretest-posttest data from the VOCAC Test. It summarises the means and standard deviations for the treatment conditions, and for both gender and ability groups.

A four-factor ANOVA with repeated measures was conducted to determine the main effects and interactions between each of the variables (Appendix A). No significant interactions were found between or among the substantive factors. As with Study 1, a significant result for the Groups x Time interaction was hypothesised, but this result was not forthcoming. Therefore, null hypotheses one, three and five were again supported.

Between-subjects effects indicated a significant main effect for ability ($F(1,40) = 47.54, p < .05$). Inspection of the means indicated that above average

Table 4.3
Summary of VOCAC Test means and standard deviations for the treatment conditions, gender and ability groups

Group	N	Pretest Mean (SD)	Posttest Mean (SD)
Control	24	10.4 (3.2)	11.2 (3.0)
Experimental	24	9.2 (4.1)	10.3 (3.8)
Boys	24	9.4 (4.1)	10.3 (3.8)
Girls	24	10.2 (3.3)	11.2 (3.1)
Above average students	24	12.3 (2.0)	12.9 (1.8)
Below average students	24	7.2 (3.2)	8.6 (3.3)

Note. Maximum VOCAC score = 16.0

students scored at a higher level than below average students. A significant main effect was also found from pretest to posttest, ($F(1, 40) = 10.43, p < .05$).

Examination of the means revealed that vocabulary instruction increased vocabulary acquisition from context. No significant main effects were found for experimental condition ($F(1, 40) = 2.4, p > .05$) or gender ($F(1, 40) = 1.55, p > .05$).

Reading Comprehension Scores

Table 4.4 presents the pretest-posttest data for the PAT. It summarises the means and standard deviations for the treatment conditions, and for both gender and ability groups.

A four-factor ANOVA with repeated measures was conducted to determine main effects and interactions between each of the variables (Appendix A). Results indicated a significant interaction for Groups x Time ($F(1, 40) = 7.87, p < .05$). Clearly, there was a differential effect on the comprehension scores for the groups over time. Inspection of the means and examination of Figure 4.1 revealed that the RI group's scores appeared to decrease after instruction, while the SI group's scores appeared to increase. This finding suggests that vocabulary strategy instruction improved reading comprehension performance significantly relative to the context condition. These results led to a decision to reject the second null hypothesis.

A significant main effect between-subjects was found for ability ($F(1, 40) = 76.11, p < .05$) and group ($F(1, 40) = 4.13, p < .05$). As with all previous analyses,

Table 4.4

Summary of PAT means and standard deviations for the treatment conditions, gender and ability groups

Group	N	Pretest Mean (SD)	Posttest Mean (SD)
Control	24	17.0	14.9
Experimental	24	12.9	14.1
Boys	24	14.2	14.8
Girls	24	15.8	14.2
Above average students	24	20.2	19.9
Below average students	24	9.8	9.1

Note. Maximum PAT Score = 41.0

the mean of above average students was at a higher level than below average students. Control group students also scored at higher levels than experimental group students.

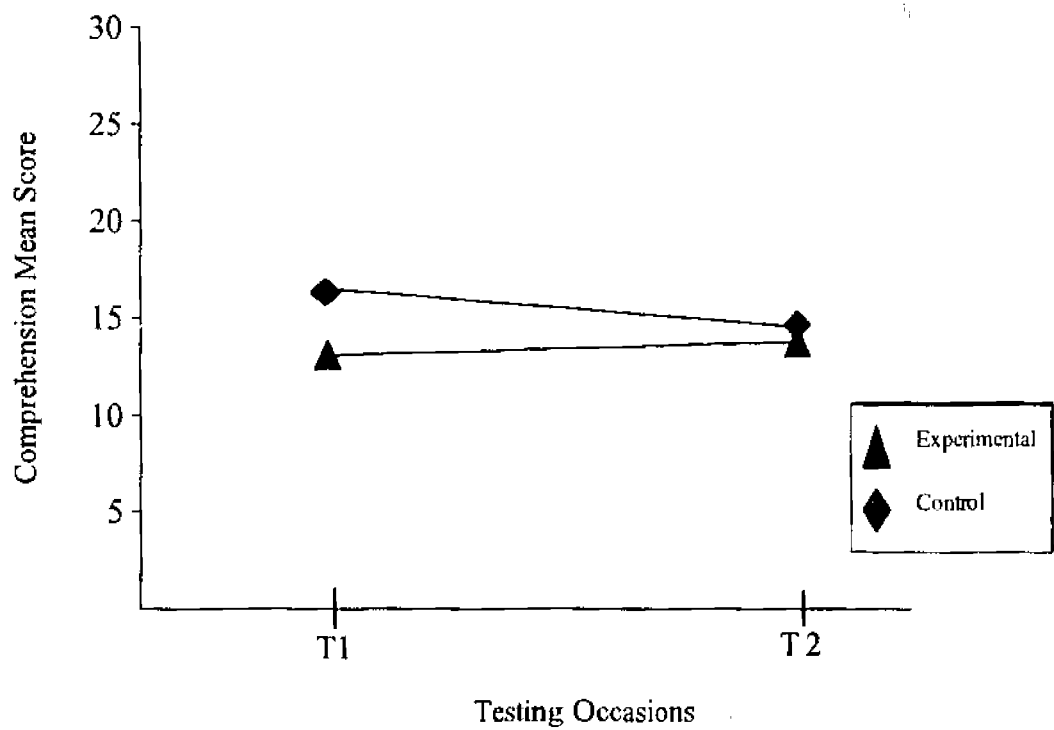
The analyses found no significant main effects for gender ($F(1, 40) = .15, p > .05$) or comprehension ($F(1, 40) = .67, p > .05$). Therefore, null hypotheses four and six were again supported.

Summary

Study 1 was as a pilot study which enabled instructional procedures, classroom management and teacher-pupil rapport to be practised and implemented. The purpose of this study was to ensure that the methods of instruction were delivered in an age appropriate manner and that the students understood the instructions given.

Figure 4.1

Graph of Study 2 Reading Comprehension Means from Pretest to Posttest



Study 1 data for the vocabulary measure indicated no significant interactions, but significant main effects for ability and time. A significant interaction for Groups x Time was not found, and since the instructional treatments were presented in a relatively inchoate form, this result was not surprising. The significant result for ability supported the classification system implemented. Above average students scored significantly higher than below average students. The significant main effect for time showed that exposure to the instructional materials can yield positive effects upon students' vocabulary acquisition from context.

The results on the reading comprehension measure for Study 1 indicated no significant interactions, but a significant main effect for ability. As with the vocabulary measure, significant interactions were anticipated, but not obtained. The significant main effect for ability supported the vocabulary results, suggesting that the procedure for classifying students as above average and below average readers was reflected in the comprehension posttest scores.

In Study 2 the procedures were modified so that the instructional modes reflected quality instructional practice, allowing for a more valid test of the hypotheses. Teacher modelling of the strategy, the language used within the presentation and rapport with the students were all altered to improve the quality of the instruction.

The results on the vocabulary measure matched those found in the first study. No significant interactions were found, in particular, the Groups x Time interaction was not significant. Vocabulary acquisition improved over time

suggesting that the common elements contained in both methods of instruction were effective in facilitating learning. These elements may have included the instructional materials, teacher modelling, guided practice and independent practice.

Reading comprehension results revealed a significant Groups x Time interaction. This was a positive outcome for those students taught strategy instruction. Inspection of the means revealed that strategy instruction students increased their reading comprehension from pretest to posttest, while regular instruction students decreased in their reading comprehension scores from pretest to posttest. Although the regular instruction group achieved at a much higher level on the pretest than the strategy group, the students were randomly assigned to the groups and this outcome occurred purely by chance. The most important aspect of this finding is that only three lessons were required to effect this significant result.

The lack of a significant interaction for Groups x Time on the vocabulary measure was not anticipated. The conceptual framework described previously suggested that the instructional elements would benefit vocabulary, which in turn would have a positive impact on reading comprehension. This result suggests that instruction in vocabulary acquisition may have a moderating effect on reading comprehension during a period in which vocabulary acquisition remains relatively stable. That is, both areas may be affected by treatments in a relatively separate way, despite the high correlation that typically exists between these domains. Secondly, in a paradoxical sense vocabulary instruction may stimulate reading comprehension, without influencing vocabulary acquisition. This result would also

have arisen if the vocabulary test was less sensitive to changes in performance than the reading comprehension measure. Overall, this indicates that the link from vocabulary acquisition to reading comprehension may not always be as direct as is commonly supposed.

Significant main effects were also obtained on the reading comprehension measure for ability and group. As with all previous analyses, the reading ability classification system was supported. Above average students consistently achieved at higher levels than below average students. A significant main effect was also found for group, favouring regular instruction students. Overall, they achieved at a significantly higher level than the strategy instruction group.

Overall, the most important result of both investigations was the significant Groups x Time interaction on the reading comprehension measure. This result favoured strategy group students and occurred after only three lessons of 30 minutes each in duration. Despite this positive result, the lack of significant results on the vocabulary measure contradicted the relationship between vocabulary acquisition and reading comprehension described in the conceptual framework. This leads to the assumption that vocabulary acquisition and reading comprehension may be indirectly related in spite of the high correlation that exists between both variables.

CHAPTER FIVE

Summary and Discussion of Results

The primary aim of this investigation was to explore the effects of regular and strategy vocabulary instruction upon Grade 5 students' vocabulary acquisition and reading comprehension. Ability and gender differences were also examined with respect to the two dependent variables. This chapter contains a discussion of these results as they relate to vocabulary acquisition and reading comprehension. The implications for education and the limitations of the two studies are also included.

Study 1 served as a pilot study to trial procedures utilised within the research. It functioned primarily as a guide to planning instructional elements, group management procedures and experimenter-subject rapport so that these components could be made more cogent and appropriate in the second study.

Study 1 findings related to vocabulary acquisition and reading comprehension indicated no significant difference in the scores of students receiving strategy or regular vocabulary instruction. Strategy instruction appeared to be no more beneficial than the regular method of vocabulary instruction employed in the present study. These results are consistent with the Carnine et al (1984) findings that extended practice was as effective as learning a rule in assisting vocabulary acquisition from context. In contrast, Buikema and Graves (1993) found that context instruction was substantively more beneficial than regular language instruction at improving vocabulary acquisition from context. Jenkins et al

(1989) also found that strategy instruction was successful at improving vocabulary acquisition. However, three or more exposures to each target word were required to facilitate acquisition in this context.

The non-significant result for the Groups x Time interaction in Study 1 could have been due to a number of factors. First, the experimental and control groups were taught to derive meanings from context, whereas control groups in previous studies have completed unrelated language activities. Secondly, the treatment may not have been given in sufficient intensity or over a long enough duration to cause substantial improvements in vocabulary acquisition from context. The process of acquiring vocabulary may require more than three 30-minute sessions. Additionally, the instruction may have lacked intensity because students were exposed to each target word only once. Thirdly, the PAT and VOCAC Tests may not have been appropriate test instruments in this context. The standardised test instruments employed probably lacked sensitivity and thus, the capacity to determine if the students improved their vocabulary acquisition and reading comprehension. Fourthly, the procedures utilised within the lessons may not have been presented effectively. In particular, classroom management and student-teacher rapport was difficult within both groups because the researchers were still attempting to perfect the instructional elements of each of the methods. Finally, the treatment strategy itself may have been ineffective. It was believed that the strategy would provide students with a procedure to derive word meanings, and that this procedure would be more beneficial to students' vocabulary acquisition than allowing them to

construct their own method for deriving unfamiliar word meanings from context.

Clearly, this was not the case in Study 1.

An important finding within the first study was that there was a significant difference between the pretest and posttest vocabulary scores. Results favoured the posttest, indicating that students were able improve in their ability to acquire vocabulary from context despite the instructional technique implemented. This result implies that vocabulary acquisition may improve from all types of vocabulary instruction, and as with Carnine et al (1984), practice and feedback may be the key variables that affect acquisition. The significance of this result to education is that the regular method may be as beneficial in teaching vocabulary acquisition as the strategy method, and the regular method involves less teacher preparation and instructional time.

Study 1 findings related to ability indicated a significant difference in the scores of above average and below average students. Above average students scored at a higher level overall than below average students. They were designated as above or below average on the basis of their pretest scores. Therefore, it was anticipated that students with above average reading skills would score significantly higher than students with below average reading skills. This result supported the system of classification used from the pretest scores to categorise students as above average or below average readers.

The findings from Study 1 related to gender indicated no significant difference in the vocabulary acquisition and reading comprehension of boys and

girls. In the majority of previous studies, girls have performed significantly better on reading tasks, or no reliable differences have existed between the genders. The results from this study suggest no significant gender difference in vocabulary acquisition and reading comprehension, and refute the notion that gender differences in reading are most prevalent during primary schooling.

In general, the results from the first study revealed a paucity of significant effects, especially with respect to treatments. The primary aim of this study was to practise the lesson procedures and improve upon any weaknesses. Since this aim was met, the results obtained were not crucial to the overall study, nor were they viewed as a true reflection of the methods implemented.

Study 2 was considered to be a more valid test of the hypotheses as the lesson presentation and implementation were improved upon from Study 1. It was also considered, however, that three 30-minute lessons may not have been sufficient to make a significant impact upon students' vocabulary acquisition from context or their level of reading comprehension.

The vocabulary acquisition findings in Study 2 were analogous with the outcomes of the first study, indicating no significant difference in the vocabulary scores of students who received regular or strategy vocabulary instruction. Again, strategy instruction appeared to be no more beneficial than the regular method of vocabulary instruction utilised within this study. The instructional techniques and classroom management procedures were smoothly implemented and no management problems occurred. Therefore, these components would not have

contributed to the non-significant result. One can assume then that either instruction intensity, lack of instrument sensitivity or an ineffectual intervention contributed to this result.

Vocabulary acquisition results were significant for time. As with Study 1, the students' vocabulary scores increased significantly from pretest to posttest. This result is important because it was replicated in this study and suggests that vocabulary instruction is successful in improving student's vocabulary acquisition from context despite the instructional method utilised. It is likely that elements common to both methods are what contributed to increasing the students' vocabulary scores. These elements may have been teacher modelling, guided practice, feedback and independent practice. Therefore, further research may be required to clarify the elements common to effective vocabulary instruction.

A significant interaction for ability and experimental condition was expected, but not obtained, on the both the vocabulary and comprehension measures. Previous research (e.g., Gilroy & Moore, 1988; Hansen & Pearson, 1983; Short & Ryan, 1984) has indicated that below average readers benefit significantly more from strategy instruction than above average readers. Skilled readers have also been found to already possess many or all of the strategies required to derive word meanings effectively and comprehend text. Hence, it was argued that strategy instruction would be of little benefit to these students. Poor readers, on the other hand, have been found to improve significantly because they initially lack a knowledge of vocabulary acquisition and reading comprehension strategies. This

result from both studies suggests that the strategy instruction may not have been designed at a level appropriate to assist the below average readers. The intervention itself may also have been no more effective than existing instruction.

A significant result on the reading comprehension measure was found for the Groups x Time interaction. Students within the strategy group improved from pretest to posttest, while regular group students' reading comprehension scores decreased from pretest to posttest. This is the most crucial result of the study because it indicates that strategy instruction is effective at improving reading comprehension levels over a short instructional period of only three 30-minute sessions. Students in the strategy instruction group performed significantly better than the regular instruction group on the reading comprehension measure, suggesting that students benefit more from strategy training than from self-devised strategies when acquiring vocabulary. The fact that these results were not reflected in Study 1 indicates that management and instructional procedures need to be implemented in a way that reflects the prescribed methodology.

The conceptual framework proposed for this study suggested that changes in vocabulary acquisition would also affect reading comprehension. That is, there was assumed to be a direct link between the two variables. The results within the second study contradicted this framework as there was a significant difference in the reading comprehension results between both groups, but not in the vocabulary acquisition results. These results parallel Hafner (1965) who also found that context clue instruction significantly improved reading comprehension without having the

same effect upon vocabulary acquisition. There are a number of explanations for this outcome. First, changes to reading comprehension levels may occur independently of improvements in vocabulary acquisition from context. Although a high correlation exists between the variables, perhaps different types of instruction affect each variable in different ways. Secondly, vocabulary acquisition may be a latent variable. That is, after initial vocabulary instruction, the strategy learnt by students may have an immediate effect upon reading comprehension levels. As time and intensity of instruction increase, however, vocabulary acquisition may then be affected. This in turn may have an impact on reading comprehension levels. For example, the strategy may assist students to derive one word from a passage that has a great impact upon the overall comprehension of the passage. Despite this, it may not have had an effect upon their overall vocabulary acquisition score. As the students practise the strategy over time and the intensity of instruction increases, vocabulary acquisition may then improve significantly and increase reading comprehension further. Thirdly, the reading comprehension measure may have been more sensitive to changes in performance than the vocabulary measure. As a result, changes in vocabulary performance may not have been identified. Fourthly, the vocabulary instruction may have heightened the students' awareness of vocabulary within text. Their awareness of word meanings may have caused the significantly different reading comprehension scores of the strategy group. Finally, the relationship between reading comprehension and vocabulary acquisition may be reciprocal. That is, the ability to comprehend text may assist students to acquire

vocabulary, which in turn may increase an individual's level of reading comprehension. In this way, although vocabulary acquisition increases, reading comprehension levels benefit most dramatically in the process (Stanovich, 1986).

The findings related to ability for both the vocabulary and reading comprehension measures indicated a significant difference in the scores of above average and below average students. This result was consistent with the first study. Above average students scored at a higher level overall than below average students. Since students were classified on the basis of their pretest vocabulary and reading comprehension scores, these results further supported the system of classification implemented.

The findings related to gender again indicated no significant difference in the vocabulary acquisition and reading comprehension of boys and girls. Findings from previous studies indicate that female students are more likely to perform better on reading tasks than male students (e.g., Asher & Markell, 1974; Dykstra, 1969; Gates, 1961) or no significant difference will exist between the genders (Drane, Halpin, Halpin, vonEschenbach & Worden, 1989; Hogrebe, Nist & Newman, 1985; Steiner, Steinen & Newman, 1981). The results from both studies suggest that gender differences in reading comprehension and vocabulary acquisition may not exist. These findings indicate that the assumed explanations for gender differences in reading (e.g., genetic differences, social expectations and teacher attitudes to reading and the reading instruction literature) appeared to cause no reliable difference between the genders' reading achievement in the context of this

investigation. Additional research is required, however, to clarify if and why these differences exist.

Overall, the study indicated that strategy instruction may be an effective way of increasing students' reading comprehension levels. A direct link between vocabulary acquisition and reading comprehension was not found, creating a need for further research to investigate this relationship. The research supports the notion that students can learn skills within their usual context rather than learning language skills in isolation. This is an important finding for teachers because the current curriculum does not allow for extra time to teach vocabulary word-by-word. Below average readers did not benefit more from the strategy instruction, suggesting that further research is needed to ascertain if strategy instruction is a viable alternative for this group of students. Finally, significantly different results on the reading scores of boys and girls were not found. This finding is important because it adds further support to the notion that gender differences do not exist in reading achievement.

Implications for Education

The results from the present investigation have several important implications for education. First, significant results on the vocabulary measure may not have occurred because the students were required to learn how to acquire vocabulary during only three 30-minute sessions. Substantial improvements in students' vocabulary acquisition may be unrealistic over such a short period. Teachers may need to allow more time before students will increase their

vocabulary acquisition and persevere with vocabulary instruction until these improvements occur.

Findings from both studies indicated that vocabulary acquisition increased significantly from pretest to posttest regardless of the method of instruction employed. This implies that instruction to assist learning vocabulary from context is beneficial in either of the two methods utilised within this study. Research findings remain unclear as to the most effective methods. Therefore, teachers need to realise that increasing vocabulary instruction is likely to produce positive gains in vocabulary acquisition from context.

Finally, the most important finding within the investigation was that strategy instruction was significantly more effective at improving reading comprehension than regular instruction. Strategy instruction may be a more viable method for increasing the reading comprehension levels of primary school students. Despite the fact that this result was not observed for vocabulary acquisition, teachers may find that there is a latent effect between the two variables and, after extended instruction and practice, students' vocabulary acquisition from context may also significantly improve.

Limitations of the study

The first limitation of both studies is that the test instruments used in the present investigation may not have been sensitive to changes in performance over a short period. Therefore, a significant result may have been limited by the lack of sensitivity of the two measures. Small improvements may have occurred in the

students' vocabulary acquisition from context and reading comprehension that were not reflected in the test scores.

A second limitation is that the instruction may not have occurred over a duration long enough to produce a significant increase in vocabulary acquisition from context. Three half hour sessions may not have been sufficient to increase vocabulary acquisition and reading comprehension, considering the rate that students learn and the fact that they were taught a strategy containing several steps. Additional time for practice of the strategy may have also been needed.

Finally, the study was limited by that fact that the classes used in the present study were not randomly selected from a range of Grade 5 classes in the metropolitan area. The class teachers voluntarily enabled the research to be conducted in their classrooms. Therefore, the results from this study cannot be generalised past the two school samples used.

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APPENDIX A

Analysis of Variance Tables

Study 1: Analysis of Vocabulary Scores

Table 6.1
 Vocabulary Acquisition Scores
 Design on the sample
 (Between - Subjects Effects)

Source of Variation	SS	DF	MS	F	p
Within + Residual	500.71	32	15.65		
Group	18.02	1	18.02	1.15	0.291
Gender	1.30	1	1.30	0.08	0.775
Ability	250.85	1	250.85	16.03	0.000
Group X Gender	2.27	1	2.27	0.14	0.706
Group X Ability	3.17	1	3.17	0.20	0.656
Gender X Ability	27.55	1	27.55	1.76	0.194
Group X Gender X Ability	4.22	1	4.22	0.27	0.607

Table 6.2
 Vocabulary Acquisition Scores
 Repeated Measures Design
 (Within - Subject Effects)

Source of Variation	SS	DF	MS	F	p
Within + Residual	61.21	32	1.91		
Time	31.52	1	31.52	16.48	0.000
Group X Time	0.92	1	0.92	0.48	0.493
Gender X Time	1.75	1	1.75	0.92	0.346
Ability X Time	2.27	1	2.27	1.19	0.284
Group X Gender X Time	0.10	1	0.10	0.05	0.819
Group X Ability X Time	0.17	1	0.17	0.09	0.768
Gender X Ability X Time	1.30	1	1.30	0.68	0.415
Group X Gender X Ability X Time	0.35	1	0.35	0.18	0.671

Study 1: Analysis of Reading Comprehension Scores

Table 6.3
 Reading Comprehension Scores
 Design on the Sample
 (Between - Subjects Effects)

Source of Variation	SS	DF	MS	F	p
Within + Residual	1021.58	32	31.92		
Ability	1642.80	1	1642.80	51.46	0.000
Group	61.63	1	61.63	1.93	0.174
Gender	26.13	1	26.13	0.82	0.372
Ability X Group	0.53	1	0.53	0.02	0.898
Ability X Gender	0.03	1	0.03	0.00	0.974
Group X Gender	1.20	1	1.20	0.04	0.847
Ability X Group X Gender	2.70	1	2.70	0.08	0.773

Table 6.4
 Reading Comprehension Scores
 Repeated Measures Design
 (Within - Subject Effects)

Source of Variation	SS	DF	MS	F	p
Within + Residual	356.75	32	11.15		
Time	39.68	1	39.68	3.56	0.068
Ability X Time	6.08	1	6.08	0.54	0.466
Group X Time	7.01	1	7.01	0.63	0.434
Gender X Time	15.41	1	15.41	1.38	0.248
Ability X Group X Time	2.41	1	2.41	0.22	0.645
Ability X Gender X Time	2.41	1	2.41	0.22	0.645
Group X Gender X Time	1.01	1	1.01	0.09	0.766
Ability X Group X Gender X Time	1.41	1	1.41	0.13	0.725

Study 2: Analysis of Vocabulary Scores

Table 6.5
Vocabulary Acquisition Scores
Design on the Sample
(Between - Subjects Effects)

Source of Variation	SS	DF	MS	F	p
Within + Residual	451.58	40	11.29		
Group	27.09	1	27.09	2.40	0.129
Gender	17.51	1	17.51	1.55	0.220
Ability	536.76	1	536.76	47.54	0.000
Group X Gender	44.01	1	44.01	3.90	0.055
Group X Ability	0.09	1	0.09	0.01	0.928
Gender X Ability	4.59	1	4.59	0.41	0.527
Group X Gender X Ability	11.34	1	11.34	1.00	0.322

Table 6.6
Vocabulary Acquisition Scores
Repeated Measures Design
(Within - Subject Effects)

Source of Variation	SS	DF	MS	F	p
Within + Residual	88.25	40	2.21		
Time	23.01	1	23.01	10.43	0.002
Group X Time	0.51	1	0.51	0.23	0.633
Gender X Time	0.09	1	0.09	0.04	0.838
Ability X Time	3.76	1	3.76	1.70	0.199
Group X Gender X Time	0.84	1	0.84	0.38	0.540
Group X Ability X Time	0.51	1	0.51	0.23	0.633
Gender X Ability X Time	0.01	1	0.01	0.00	0.946
Group X Gender X Ability X Time	6.51	1	6.51	2.95	0.094

Study 2: Analysis of Reading Comprehension Scores

Table 6.7
 Reading Comprehension Scores
 Design on the Sample
 (Between - Subjects Effects)

Source of Variation	SS	DF	MS	F	p
Within + Residual	1429.58	40	35.74		
Ability	2720.01	1	2720.01	76.11	0.000
Group	147.51	1	147.51	4.13	0.049
Gender	5.51	1	5.51	0.15	0.697
Ability X Group	0.09	1	0.09	0.00	0.959
Ability X Gender	6.51	1	6.51	0.18	0.672
Group X Gender	25.01	1	25.01	0.70	0.408
Ability X Group X Gender	1.76	1	1.76	0.05	0.825

Table 6.8
 Reading Comprehension Scores
 Repeated Measures Design
 (Within - Subject Effects)

Source of Variation	SS	DF	MS	F	p
Within + Residual	330.58	40	8.26		
Time	5.51	1	5.51	0.67	0.419
Ability X Time	0.84	1	0.84	0.10	0.751
Group X Time	65.01	1	65.01	7.87	0.008
Gender X Time	27.09	1	27.09	3.28	0.078
Ability X Group X Time	21.09	1	21.09	2.55	0.118
Ability X Gender X Time	8.76	1	8.76	1.06	0.309
Group X Gender X Time	3.76	1	3.76	0.46	0.504
Ability X Group X Gender X Time	15.84	1	15.84	1.92	0.174

APPENDIX B

Lesson 1: Strategy Instruction

Lesson 1 - Strategy Instruction

1. (Hand out the worksheet). Today you are going to do some work with me. It is important that you do your best work and listen very carefully to what I say. You are going to learn how to work out the meaning of a word in a passage by using the clues to help you.
2. Take a look at the first passage. Follow along as I read it. I want you to think about what I am reading and think about the meanings of all the words. (Read passage 1).
3. First I need to say what the passage is about. The passage is about the city and how the houses are built so close together, the cars are bumper to bumper and it is almost impossible to find a parking spot.
4. I don't know what the word **quelled** means. To work out what it means look at the meanings under the passage. First, I'll put each meaning into the sentence so that I can have a guess at what the meaning might be. (Read each meaning aloud, substituting it into the passage). I think that the meaning is **noisy**.
5. Now I will show you how to check the answer. Check in the passage to see whether there are any clues that show you that **quelled** means **noisy**. I can't find any clues that show me that **quelled** means **noisy**, so **noisy** can't be the correct meaning.
6. I'll try another meaning. This time I'll try **crowded**. I need to check if there are any clues in the passage to show me that **crowded** is the meaning of the word **quelled**. The first clue is that the houses are built close together. The second clue is that all the cars are bumper to bumper and the third clue is that it is almost impossible to find a parking spot. All these clues describe how crowded it is in the city, so **crowded** must be the meaning of **quelled**.
7. The last thing I have to do to make sure that **crowded** is the correct answer is check that there are no clues to show me that the meaning is **interesting** or **polluted**. There are no clues to show me that **quelled** means **interesting** or **polluted**, so **crowded** must be the correct meaning. Then we must circle (d).
8. Look at the second passage. Follow along as I read it. I want you to think about what I am reading and think about the meanings of all the words. (Read passage 2).

9. First I need to say what the passage is about. The passage is about a girl named Joanne and how she would like to have her own business. But she is scared to start her own business because you need to work very hard, it costs a lot of money, you have to work long hours and it might fail.
10. I don't know what the word **farby** means. To work out what it means look at the meanings under the passage. First, I'll put each meaning into the sentence so that I can have a guess at what the meaning might be. (Read each meaning aloud, substituting it into the passage). I think that the meaning is **well**.
11. Now I will show you how to check the answer. Check in the passage to see whether there are any clues that show you that **farby** means **well**. I can't find any clues that show me that **farby** means **well**, so **well** can't be the correct meaning.
12. I'll try another meaning. This time I'll try **wrong**. I need to check if there are any clues in the passage to show me that **wrong** is the meaning of the word **farby**. The clue is that in the passage it says that if things go **farby** you can lose all your money and be left with nothing. If things go wrong it means that something happens that is not good. Losing all your money and being left with nothing is not good. This means that **wrong** is probably the correct answer.
13. The last thing I have to do to make sure that **wrong** is the correct answer is check that there are no clues to show me that the meaning is **comfortably** or **astray**. There are no clues to show me that **farby** means **comfortably or astray**, so **wrong** must be the correct meaning. Then we must circle (d).
14. Let's do the next passage together. Follow along as I read it. I want you to think about what I am reading and think about the meanings of all the words. (Read passage 3).
15. What is the first thing I have to do? (Select a student). *Say what the passage is about?*
16. What is the passage about? (Accept responses until a clear description of the passage has been given).
17. I don't know what the **halp** means. What is the first thing I need to do to work out what it means? (Select a student). *Try each meaning in the passage. (Read each meaning aloud, substituting each meaning into the passage).*

18. What is the next thing I have to do? (Select a student). *Choose which meaning you think is correct.*
19. What do you think the word **help** means? (Select a student).
20. How do I check that **** is the correct meaning? (Select a student). *See if there are any clues in the passage that show you that **help** means ****.*
21. Are there any clues that show you that **help** means ****? (Select students).
22. (Continue eliminating meanings until the students think they have found clues to support one of the answers.)
23. What is the last thinking that we have to do to check that this meaning is correct? (Select a student). *Check that the clues do not show you that another meaning is correct.*
24. (Check that the meanings not used have no clues to support them).
25. Now I want you to work out the meaning of the word **fanx** in passage 4 by using the steps that we have just practised. Don't rush to finish quickly. Make sure that all the clues show you that the meaning you choose is correct.
26. (When all the students have finished, work through steps 15-24 until the correct answers is reached).
27. Now I want you to work out the meanings of the words in questions 5, 6, 7 and 8. First think about what the passage is about, second choose one of the meanings, third make sure the meaning matches all the clues and then check that the clues do not show you that another meaning is the correct answer. (Write each step on the board as you say it).
28. (When all the students have finished, work through steps 15-24 until all four questions are answered correctly).
29. Let's revise how you work out the meaning of a word in a passage. (Point to the steps in the board). First think about what the passage is about, second choose one of the meanings, third make sure the meaning matches all the clues and then check that the clues do not show you that another meaning is the correct answer.

30. What is the first thing you do after you read the passage? (Select a student). *Think about what the passage is about.*
31. What do you do next? (Select a student). *Choose the meaning you think is correct.*
32. What do you do next? (Select a student). *Make sure that the meaning matches all the clues.*
33. What if it doesn't match the clues? (Select a student). *Choose another meaning.*
34. If it matches the clues, what is the last thing you need to do? (Select a student). *Check that the clues do not show you that another meaning is correct.*

APPENDIX C

Lesson 1: Regular Instruction

Lesson 1 - Regular Instruction

1. Today you are going to do some work with me. First you are going to read a book silently, then I am going to teach you how to work out the meaning of a word when you read it in a passage. It is very important that you do your best work and listen very carefully to what I say.
2. Please take out your books and read silently for 10 minutes.
3. Close your books. (Hand out worksheet). You are going to practice finding the meaning of a word in a passage.
4. To work out the meaning of a word in a passage you need to try each meaning in the passage until you find the one that makes the most sense.
5. Look at the first passage. Follow along as I read it. (Read passage 1).
6. Look at the meanings under the passage. (Read each meaning aloud). Let's put each meaning into the passage so that we can decide which meaning makes sense. (Read out the passage substituting each meaning for the nonsense word).
7. I think that the best meaning is ***crowded*** because in the passage it says that the houses are built close together in the city, cars are bumper to bumper and it is almost impossible to find a parking spot. ***Crowded*** makes the most sense in the passage, so you need to circle (d).
8. Look at the second passage. Follow along as I read it. (Read passage 2).
9. Look at the meanings under the passage. (Read each meaning aloud). Let's put each meaning into the passage so that we can decide which meaning makes sense. (Read out the passage substituting each meaning for the nonsense word).
10. I think that the best meaning is ***wrong*** because in the passage it says that when you have a business and things go right your business will be successful, but if things go wrong you can lose all your money and be left with nothing. ***Wrong*** makes the most sense in the passage, so you need to circle (d).
11. Let's work out the meaning in passage three together. Follow along as I read it. (Read passage three).

12. Look at the meanings under the passage. (Read each meaning aloud). Let's put each meaning into the passage so that we can decide which meaning makes sense. (Read out the passage substituting each meaning for the nonsense word).
13. Which meaning do you think makes the most sense? (Take responses until **memory** is given).
14. Why does **memory** make the most sense? (Accept responses along the lines that the passage describes how Beth always forgets things and if you forget things you have a bad memory).
15. To work out the meaning of a word in a passage you need to try each meaning in the passage until you find the one that makes the most sense.
16. How do you work out the meaning of a word in a passage? (Select a student). *Try each meaning in the passage until you find the one that makes the most sense.*
17. Work out the meaning of the word **fanx** in passage 4 by deciding which meaning makes the most sense.
18. (When all the students have finished, repeat steps 12-14 for **fanx**)
19. Now find the meanings for the words in questions 5, 6, 7 and 8 by working out which meaning makes sense.
20. (Repeat steps 12-14 for questions 5-8).
21. How do you work out the meaning of a word in a passage? (Select a student). *Try each meaning in the passage until you find the one that makes the most sense.*

APPENDIX D

VOCAC Test

VOCAC Test

Name _____

Read each passage below. Put a circle around the meaning which best describes the nonsense words.

Practice Question

Louise gets two weeks off every year for her **heger**. Last year she went to Mexico. She wanted to spend time laying on the beaches, eating the food, and shopping. But she didn't get to do any of those things. That's because she got sick the second day she was there. She spent the rest of the trip in her hotel room.

Heger means

- (a) rest
- (b) leisure
- (c) holiday
- (d) enjoyment

1. My favourite store is the new candy shop. The owners carefully arranged the shop window to **examite** people to come into the store. They have decorated the window with boxes of chocolates, jars of peppermint sticks, and gold-wrapped candies. In the very centre of the window is a large gingerbread house, surrounded by a wall of tiny chocolate cakes. It looks so tempting that people just have to come in.

Examite means

- (a) train
- (b) excite
- (c) tempt
- (d) help

2. Jack and Joe are alike in that they both have the same **balotation** - mountain climbing. They do most of their climbing on the weekends, but sometimes they take a day off from work during the week and go. So far they have climbed Mt Baker, Mt Hood, and Mt Rainer. Mountain climbing is a dangerous hobby, but it is very rewarding and exciting.

Balotation means

- (a) reward
- (b) danger
- (c) love
- (d) hobby

3. We've been reading and talking a lot about Eskimos lately. Our teacher told us that Eskimos have been hunting whales for food for years. But some kinds of whales are almost gone. Should Eskimos be allowed to keep killing these whales for food? What can we do to save the whales? How can we make sure the Eskimos have enough food? These are **ceft** questions because they make you think about the value of whales, our largest mammal.

Ceft means

- (a) make you angry
- (b) make you sad
- (c) make you think
- (d) make you worry

4. One of the groups that Jane belongs to is trying to **enturn** the laws about women's rights. Her group meets every Wednesday night. The group feels it is about time to change some old laws so that they are better and fairer. For example, they think women who have the same jobs as men should get paid the same as men. It will be better for women when the laws are fair.

Enturn means

- (a) change for the better
- (b) turn around
- (c) change for the worse
- (d) make bigger

5. Grandma was always telling stories. She used to tell us that when there was a full moon the werewolf came out. She said he would do terrible things to children who had not been good that day. For a long time we **yulded** the story, checking the calendar to make sure we knew when the moon was full.

Yulded means

- (a) believed
- (b) hated
- (c) understood
- (d) loved

6. My favourite books to read are detective stories. I like to try to solve the mystery before it is explained in the story. Sometimes I'm right, but most of the time I'm wrong. A good mystery writer is able to **vyterg** readers by making them think one thing is going to happen and then throwing in a surprise at the end.

Vyterg means

- (a) intrigue
- (b) trick
- (c) bore
- (d) excite

7. On Saturday Neil remembered that his mother's birthday was that week. But he had spent all his money and didn't have any left to buy her a present. Some people steal when they don't have enough money to buy something. But Neil knows that you can be **galmered** if you get caught. Even kids his age can be put in jail. He waited until he saved enough money and then he bought the present. His mother didn't mind that her present was late.

Galmered means

- (a) be put in jail
- (b) caught
- (c) told off
- (d) accused

8. The Anderson family had been planning their trip to Disneyland for two weeks. On the day they were planning to leave, everyone seemed to be running late. To **acquimene** the packing, Mrs. Anderson helped Barry and Sue by laying out their clothes. With that help, the children were finished before their parents. Mrs. Anderson thought she should have laid out Mr Anderson's clothes to make his packing go faster, too.

Acquimene means

- (a) complete
- (b) slow down
- (c) ruin
- (d) speed up

9. Sharon decided to get a new job at a hotel but she didn't like it. Although she loves to meet people, she found that she never really got to know anyone. Hotel guests are **turcome**. Because they are here for a day or two then leave, it is almost impossible to get to know them well.

Turcome means

- (a) going from city to city
 - (b) going from place to place
 - (c) going from job to job
 - (d) going from home to work
10. One night at dinner we talked about kingfisher birds. Kingfishers dive from the sky so fish don't see them coming because their shadows are hidden. We don't know how kingfishers became so **monative** at catching fish. So skilful at catching fish, they are some of the best fishing birds in the world. They catch one almost every time they try.

Monative means

- (a) cunning
 - (b) skilful
 - (c) fortunate
 - (d) artful
11. It's much **yorner** in the city. The noise is hard to get used to because I'm used to hearing a rooster and a few birds in the morning when I wake up. Now I awake to the sound of cars and buses, whistles, radios, people yelling and talking, children laughing. I wonder if I'll ever get used to it.

Yorner means

- (a) busier
- (b) dirtier
- (c) noisier
- (d) smellier

12. On the last day of our vacation, Aunt Liz took us to the movies. It was a nice thing for her to do, but we didn't have a very good time. That's because Aunt Liz always talks during the movies. She's a nice person, but she's so **climmery** it drives us crazy. The next time she wants to take us somewhere, I hope it's not the movies.

Climmery means

- (a) talkative
- (b) crazy
- (c) enthusiastic
- (d) nice

13. The doctors told Jill's parents that she had to have an operation immediately. At first, they wouldn't agree. They thought that the chances of brain damage from the operation were too great. But, two days later they **remorned**. It had become clear to them that Jill would die without the operation.

Remorned means

- (a) disagreed
- (b) gave up
- (c) felt sad
- (d) changed their mind

14. Once Jill asked Frank if he would go to a musical concert with her. She figured he wouldn't want to because the tickets cost \$20 each. But she asked him anyway, pointing out that the musicians were all **bristimos** and it would be well worth \$20 to hear them play. To Jill's surprise Frank agreed to go. He was glad he did. The musicians all played beautifully.

Bristimo means

- (a) people who play an instrument well
- (b) people who are talented dancers
- (c) people who fix musical instruments
- (d) people who go to music concerts

15. I like living in an apartment building because you never get lonely. You can't be **zafte** when there are lots of different people to meet. The little old lady downstairs is very sweet. She invites me down for tea and cookies every now and then, Mr Brown across the hall takes me to school and brings in the mail sometimes, and the lady next door brings her baby to see me on weekends.

Zafte means

- (a) afraid
 - (b) lonely
 - (c) hungry
 - (d) bored
16. What I like best about my friends is that they are all so **birgote**. It makes things interesting. Some of my friends are very quiet and shy. They enjoy reading, playing chess and going to movies. The kind of parties they like are the small ones with no more than five people. I have other friends that are wild, crazy and loud. They like big parties and going to hear bands play.

Birgote means

- (a) different
- (b) nice
- (c) interesting
- (d) shy